

RUD DRIVE TECHNOLOGY

ENG

EDITION_1

PIVOTING · LIFTING · HANDLING · TELESCOPING · ROTATING



**Do these
themes look
familiar to you?**

2



RUD Solutions have precise objectives in mind, always seeking to optimise our processes and develop new application solutions.

TECDOS offers drive innovations for industrial, harbour and offshore applications.

**> For more information,
see pages 4 – 7**



Do you always have trouble with the weather-resistance of your drive solutions? Do your modules simply rust too fast?

TECDOS components and modules succeed where other systems fail.

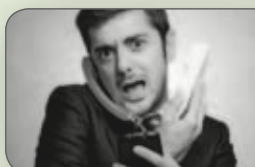
**> For more information,
see pages 8 and 9**



Would you prefer to purchase complete solutions rather than individual parts?

TECDOS offers intelligent modules and complete systems customised to your specific application.

> For more information, see pages 14 – 17 and 22 – 24



Do you have difficulties with local customer service representation?

Contact our sales team at
www.rud-tecdos.com



Would you like more technical advice and support?

Then send us your requests. Get in direct contact with our engineers and send us your challenges regarding drive technology.

> tecdos@rud.com

Can you imagine working with a company that is qualified to solve all your challenges regarding drive technology, also ensuring top level servicing and commercial service?

Then please contact us

> tecdos@rud.com

Tel. no. +49 / 7361 50 41 1373

Fax no. +49 / 7361 50 41 1543



High performance for all environments for horizontal, vertical and rotational drive applications

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ROUND STEEL
CHAIN

OMEGA-
DRIVE SYSTEM

CONNECTION
OPTIONS

PI/GAMMA
POCKET WHEEL BLOCKS

DRIVE AND REVERSING
CHAIN WHEELS

CHAIN
GUIDE

CHAIN
END FIXING

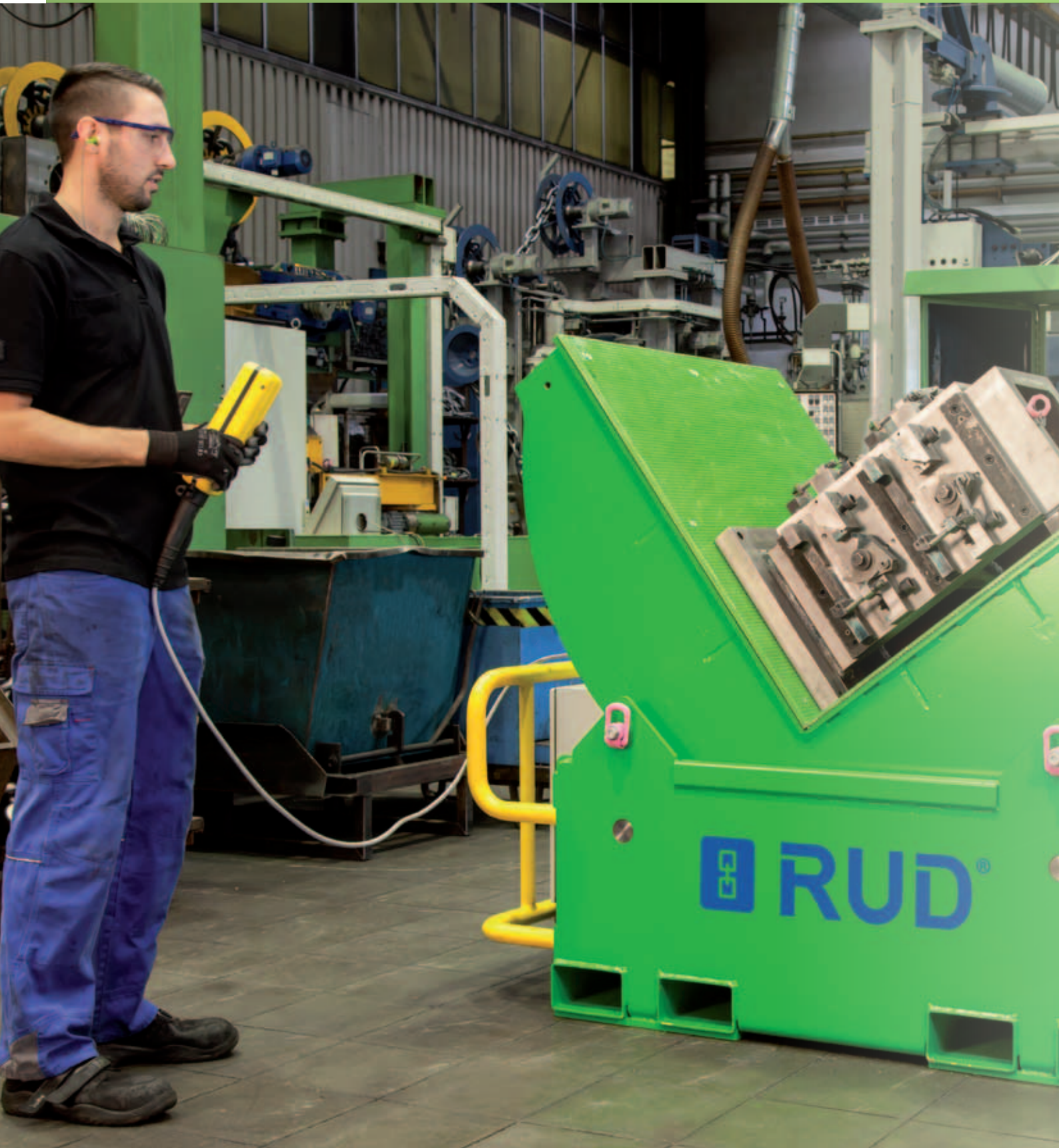
TOOL MOVER
COMPLETE SYSTEM

TECDOS®



Cutting edge drive concepts for all movement processes in handling and onshore applications:
horizontal – vertical – rotational

4





TOOL MOVER

For the safe handling and rotation of heavy and precision injection moulding tools and other pieces



TECDOS Handling

Lifting and swivelling of modules and loadbearing parts



TECDOS Handling

Braced and controlled lifting of components



TECDOS Onshore

Weather resistant lifting and lowering of components

TECDOS®



Robust drive for all movement
processes in offshore and harbour applications:
robust – compact – effective

6





TECDOS Offshore
Telescopic extension
of belt conveyors



TECDOS Offshore
Skidding Systems - Drives for skidways
to move ship cranes



TECDOS Offshore
Skidding Systems - Drives for skidways
on pontoons above/under ship decks



TECDOS Offshore
Spooling equipment for cable
winches and hose drums

TECDOS® components



for the construction of a complete TECDOS drive solution
using the TECDOS high performance round link chain

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TECDOS COMPONENTS					
	Drive module and components				
	Pi drive Complete systems incl. chain wheel	Gamma drive Complete systems incl. chain wheel		Omega drive	
	TECDOS® high performance chain Medium (hardened and tempered)		TECDOS® high performance chain Premium (case hardened)		
	Chain guides		Chain wheels		
	TECDOS® accessories				
	End fixings	PowerPoint anchor points	Cobra fork head hook	Lift limiter	Connector



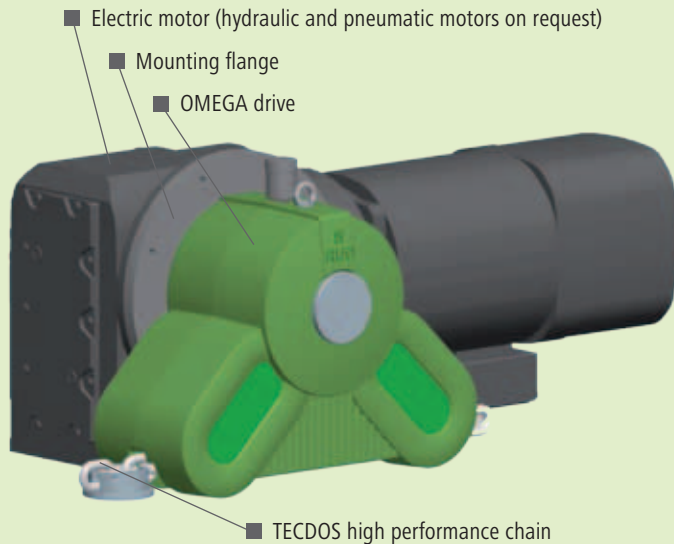
TECDOS® complete systems

Complete drive solutions and handling systems
using TECDOS components



DRIVE SOLUTIONS

OMEGA-DRIVE (example with SEW electric drive)

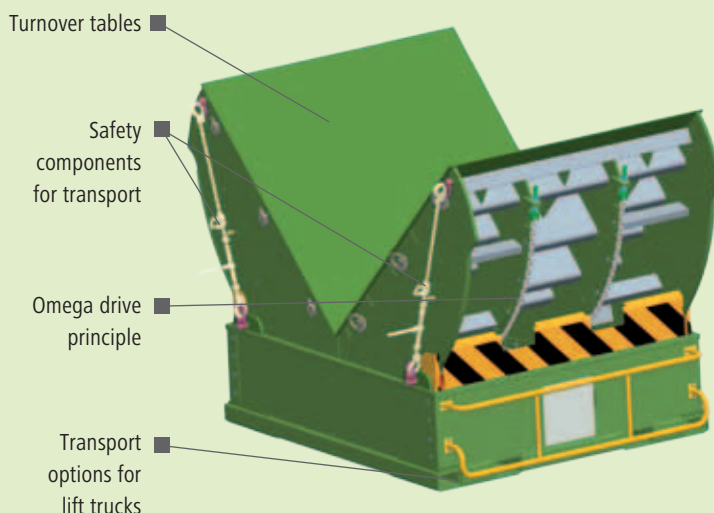


OMEGA-DRIVE is the ideal drive solutions for linear and rotary movements. For driving a trolley along a beam, a dockyard crane along its track or for slides, it surpasses any comparable rack and pinion solution. It is unaffected by dirt, sand, ice, etc., is easier to install and tolerates misalignment. Its modular concept allows for assembly to electric, hydraulic and pneumatic motors, but it can also be supplied with electric motor. Available with static or mobile chain.



HANDLING SYSTEMS

TOOL MOVER

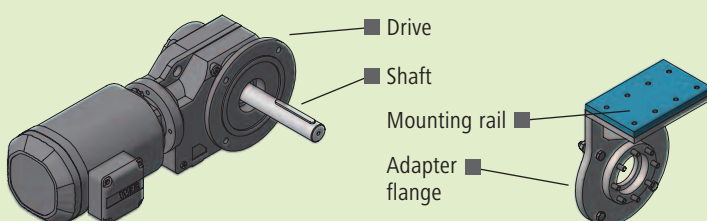


Innovative handling device for the safe handling of heavy and precision injection moulding tools and other objects.

- Easy to use
- Low running noise (theatre-approved)
- Robust construction (> 20,000 turnover cycles)
- Easy to service
- Handles a large range of different tool sizes
- Customised to your specific application
- Movable by means of a crane or forklift



ATTACHMENTS AND MOTORS FOR COMPLETE SYSTEMS



Complete systems are available with motors from leading manufacturers.



High technology round link chain

The advantages

in comparison with other drive systems



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		RUD ROUND LINK CHAIN		ROLLER CHAIN	
✓	Robustness				
	Round link chain:	very good	+		
	Roller chain:	poor	+	—	
	Steep rope:	satisfactory	+		
	Rack and pinion:	good			
	Hydraulic:	satisfactory			
✓	3D mobility				
	Round link chain:	very good	+		
	Roller chain:	poor	+	—	
	Steep rope:	satisfactory	+		
	Rack and pinion:	poor	+		
	Hydraulic:	poor			
✓	Deflection radius				
	Round link chain:	small	+	+	
	Roller chain:	small	+	+	
	Steep rope:	large	+	+	
	Rack and pinion:	large	+	+	
	Hydraulic:	—			
✓	Storage				
	Round link chain:	good	+		
	Roller chain:	poor	+	—	
	Steep rope:	satisfactory	+		
	Rack and pinion:	poor			
	Hydraulic:	poor			
✓	Maintenance				
	Round link chain:	very seldom	+		
	Roller chain:	continuous	+	—	
	Steep rope:	seldom	+		
	Rack and pinion:	seldom			
	Hydraulic:	extensive			
✓	End fixing				
	Round link chain:	very good	+		
	Roller chain:	good	+	+	
	Steep rope:	satisfactory	+	+	
	Rack and pinion:	satisfactory			
	Hydraulic:	good			
✓	Infrequent use				
	Round link chain:	very good	+		
	Roller chain:	poor	+	—	
	Steep rope:	satisfactory	+		
	Rack and pinion:	good			
	Hydraulic:	good			
✓	Corrosion resistance				
	Round link chain:	very good	+		
	Roller chain:	poor	+	—	
	Steep rope:	poor	+		
	Rack and pinion:	good			
	Hydraulic:	extensive			

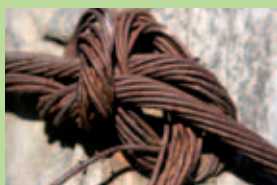


STEEL ROPE

RACK AND PINION

HYDRAULIC

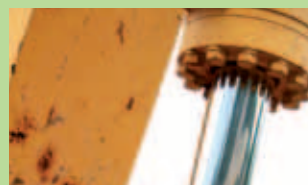
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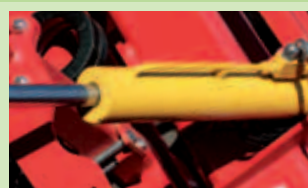
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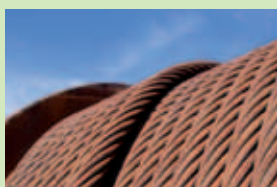
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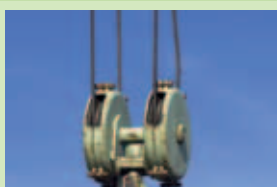
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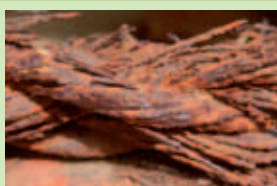
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ROUND STEEL CHAIN



OMEGA-DRIVE SYSTEM



CONNECTION OPTIONS



PI/GAMMA POCKET WHEEL BLOCKS



DRIVE AND REVERSING CHAIN WHEELS




CHAIN GUIDE



CHAIN END FIXING



TOOL MOVER COMPLETE SYSTEM



The material and practical advantages of RUD round link chain

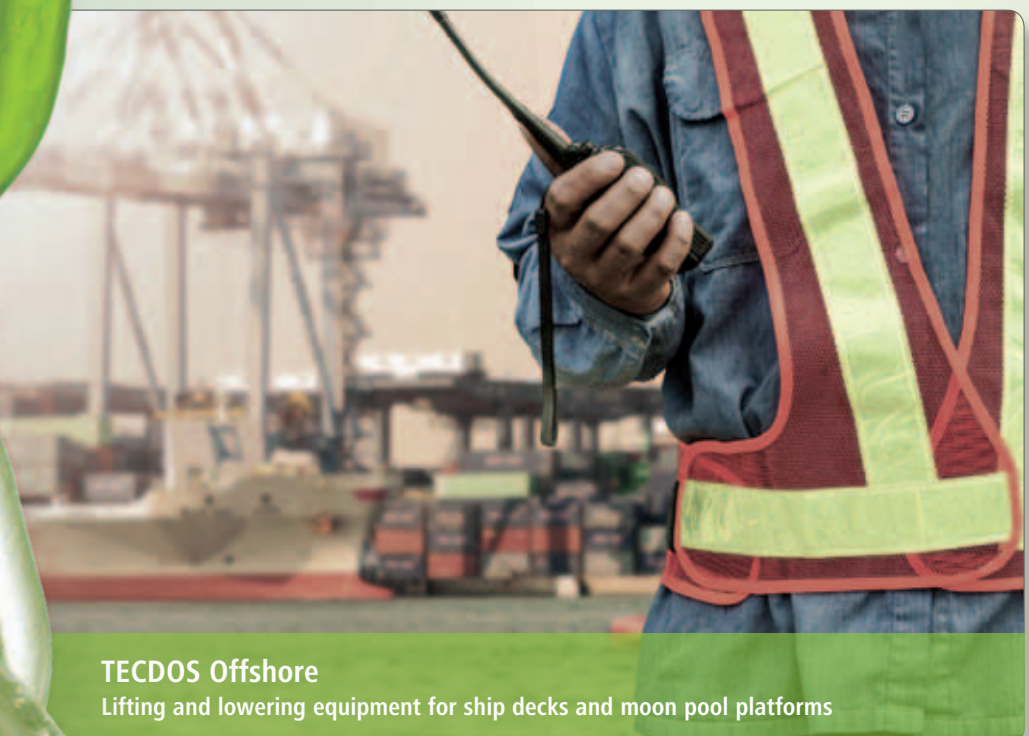


TECDOS ROUND LINK CHAINS ARE:

- mobile in three-dimensions
- self cleaning
- hard wearing and long life
- compact design
- low maintenance
- quiet, reliable operation
- corrosion resistant

TECDOS IS ALWAYS THE BEST SOLUTION:

- under severe environmental conditions
- when infrequent or frequent use is required
- when exposed to the weather
- in offshore, underwater and harbour applications
- when three-dimensional mobility is required
- when high forces have to be transmitted with limited space
- when the equipment has to be stored in a small space



TECDOS Offshore

Lifting and lowering equipment for ship decks and moon pool platforms

TECDOS®-high performance chain

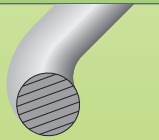
Medium / Premium

for pivoting, lifting, moving, telescoping and rotating

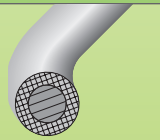
Connector



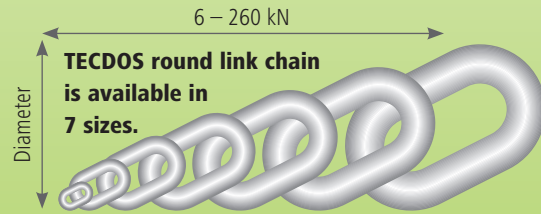
Always the best choice of chain for all TECDOS drive solutions



Medium hardened chain
HV approx. 360



Premium case hardened chain
HV 580 – 600



Chain	Operating force [kN]	Weight approx. (kg/m)	Length (m)									
			10		20		30		50		variable	
			Medium	Premium	Medium	Premium	Medium	Premium	Medium	Premium	Medium	Premium
TEC 6	6	0.59	7905141	7905150	7905140	7905149	7905139	7905148	7905138	7905147	7905137	7905146
TEC 12	12	1.13	7905106	7905117	7905105	7905116	7905104	7905115	7905130	7905114	7905102	7905113
TEC 25	25	2.24	7905097	7905072	7905096	7905071	7905095	7905070	7905094	7905069	7905093	7905068
TEC 43	43	3.80	7905061	7905049	7905060	7905048	7905059	7905047	7905058	7905046	7905057	7905040
TEC 65*	65	5.70	—	—	—	—	—	—	—	—	7904959	7905020
TEC 140*	140 ^(*)	12.30	—	—	—	—	—	—	—	—	7904948	7905015
TEC 260*	260 ^(*)	22.60	—	—	—	—	—	—	—	—	7904947	—

* topcoat silver ^(*) When using TECDOS chain connectors the operational force of the chain has to be adapted according to the specification of the connectors.

Corrosion protection treatment for TECDOS high performance chain

Surface	Short description of surface coating	New condition	After 100 hours salt-spray test
Electrolytic galvanised * topcoat silver	electrolytic metal deposition (6-10 µm)		

TECDOS-CONNECTOR

Chains and connectors form a reliable system. Both components perfectly suit together in combination with the OMEGA DRIVE or chain wheels.



TECDOS-Connector

Part no.	Chain size	Operational force kN	Load change	Max. allowed chain speed	Weight kg	Surface
7906522	TEC140	100	20,000	8 m/min	1.2	painted
On request	TEC260	200	20,000	4 m/min	2.6	painted

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ROUND STEEL CHAIN



OMEGA-DRIVE SYSTEM



CONNECTION OPTIONS



PIGAMMA-POCKET WHEEL BLOCKS



DRIVE AND REVERSING CHAIN WHEELS



CHAIN GUIDE



CHAIN END FIXING



TOOL MOVER COMPLETE SYSTEM

OMEGA DRIVE



Drive systems for moving
Versatility



- Moving harbour cranes
- Aligning and adjusting ship loaders and unloaders
- Moving deck cranes
- Opening and closing sliding doors in loading spaces
- Turning platforms
- Driving ferries
- Moving wagons for unloading
- Extending telescopic booms of ship loaders and cranes
- Moving of ocean poles
- Skidding systems

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Operating power 6 - 520 kN

The OMEGA principle

Drive wheel
with wrap angle of 180°

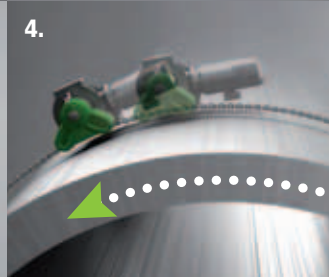
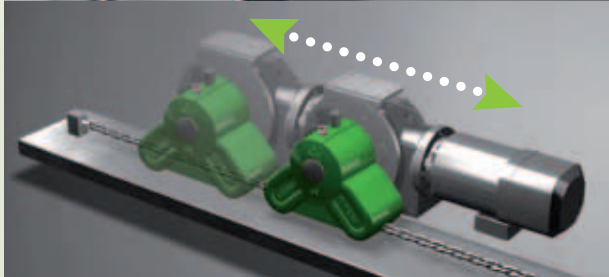


OMEGA drive principle

- Reversing wheels
- Integrated plain bearings
- Integrated chain guide
- Drive shaft free of additional power

OMEGA-applications

1. Linear travel, fixed drive and mobile chain/equipment
2. Mobile drive and fixed chain/equipment
3. Rotational movement
4. Fixed drive and mobile chain/equipment



More informations:
www.youtube.com/user/RUDKetten

Omega-Drive Hotline:
Tel.: +49 -73 61-504-1373

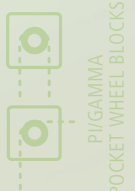
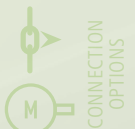
YouTube

Approved
by numerous
maritime
classification
agencies!



Mobile or fixed drive

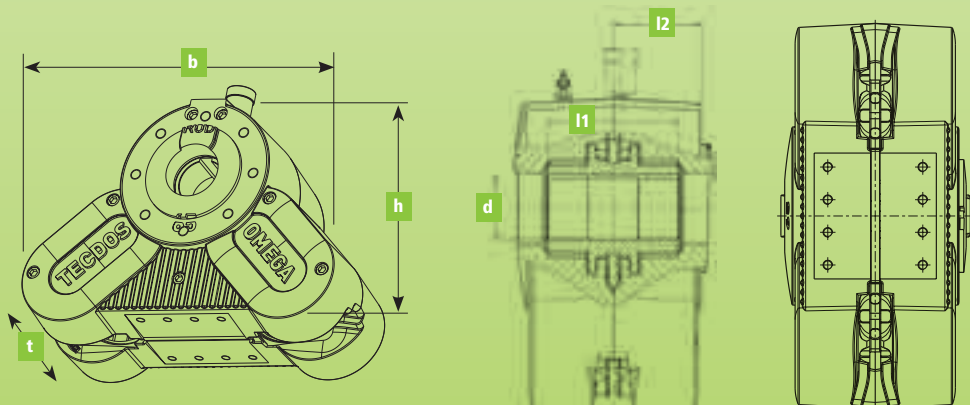
OMEGA DRIVE – Weight 20 – 2,575 kg



The OMEGA complete system



High performance in all conditions
for horizontal, rotational
and vertical drive applications

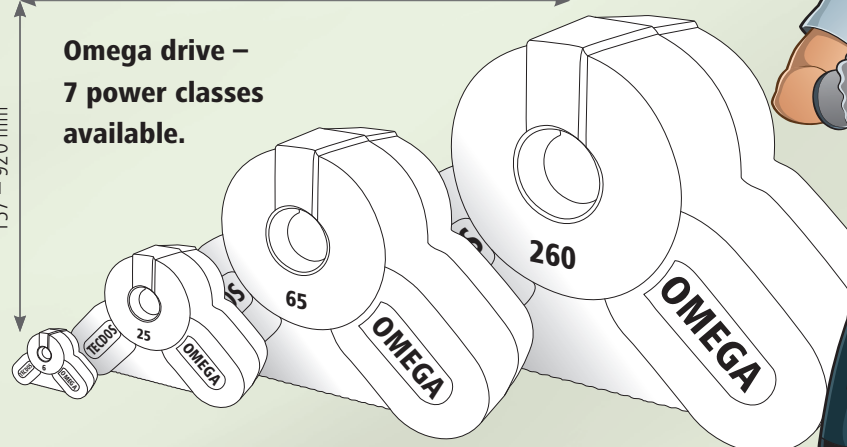
Designation	Dimensions (mm)				Hub dimensions (mm)				P/n
	Height [h]	Width [b]	Depth [t]	Weight [kg]	Diameter [d]	Lenght [l1]	Lenght [l2]	Number of grooves DIN 6895 [mm] P9	
Omega 6	157	219	147	20	25 H7	110	67.5	1	7905346
Omega 12	219	305	184	46	40 H7	135	84.5	1	7905134
Omega 25	293	407	236	104	50 H7	170	106	1	7905351
Omega 43	376	524	303	216	70 H7	220	136	1	7905356
Omega 65	468	649	320	333	90 H7	210	141	1	7905360
Omega 140	685	953	444	991	130 H7	300	194.5	2 (120°)	7905364
Omega 260	920	1.293	547	2.163	180 H7	368	236	2 (120°)	7905371

Available chain lengths - see page 13

219 – 1,293 mm

157 – 920 mm

**Omega drive –
7 power classes
available.**

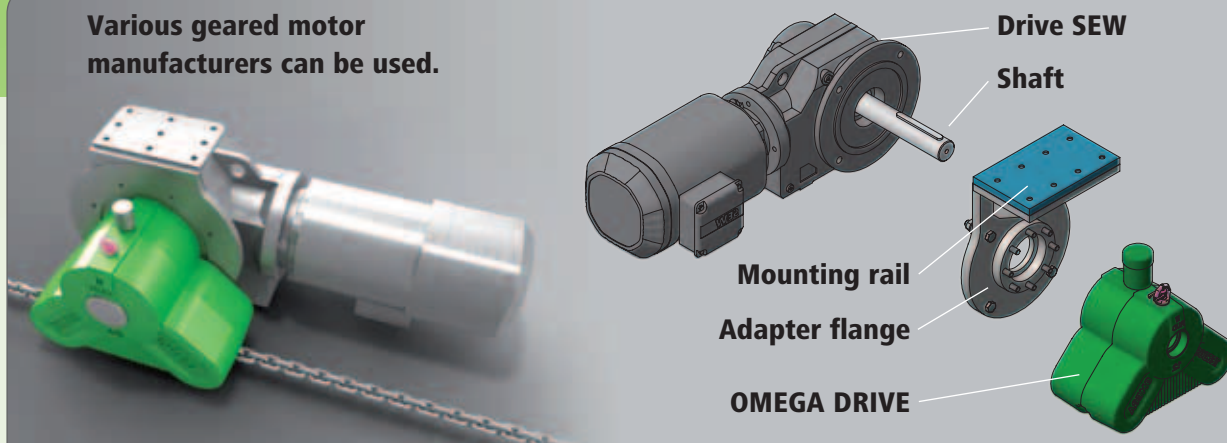


The OMEGA module system

Modular construction for unbeatable flexibility in the choice of an electric, hydraulic or pneumatic motor



Various geared motor manufacturers can be used.



Designation	Maximum driving force* [kN]	Speed [in/min]	Drive	Adapter flange	Shaft	Mounting Rail
OMEGA 6	6	6	KHF 47 DRE80M4	X	X	X
		8				
		10	KHF 47 DRE90L4			
		12				
OMEGA 12	12	6	KHF 67 DRE90L4	X	X	X
		8				
		10	KHF 67 DRE100M4			
		12	KHF 67 DRE100LC4			
OMEGA 25	25	6	KHF 87 DRE100LC4	X	X	X
		8				
		10	KHF 87 DRE132S4			
		12	KHF 87 DRE132M4			
OMEGA 43	43	6	KHF 97 DRE132M4	X	X	X
		8				
		10	KHF 97 DRE132MC4			
		12	KHF 97 DRE160S4			
OMEGA 65	65	2	KHF 107 R77DRE100M4	X	X	X
		4	KHF 107 R77DRE132M4			
		6	KHF 107 DRE132MC4			
		8	KHF 107 DRE160M4			
		10	KHF 107 DRE160MC4			
OMEGA 140	140	2	PHF002 KF77 DRE132M4	X	X	X
		4	PHF002 KF77 DRE160MC4			
		6	PHF002 KF87 DRE180M4			
		8	PHF002 KF87 DRE180LC4			
		10	X4KH150/HU/F			
OMEGA 260	260	1	PHF032 KF97 DRE132M4	X	X	X
		2	PHF032 KF97 DRE160M4			
		3	PHF032 KF97 DRE180M4			
		4	PHF032 KF97 DRE180L4			

OMEGA drive complete system

- This innovative drive concept offers quiet, reliable performance long after rack and pinion drives, spindle drives or roller chains have given up.
- RUD Omega Drive is resistant to ice, dirt, rain and aggressive environments. This drive concept has proven itself in many applications worldwide.

OMEGA drive applications

- RUD Omega drive is the solution: for moving ship cranes, tracking solar panels to the sun, or simply traversing a machine.
- Supplementary parts for flange mounting motors available on request.

Ordering example

OMEGA-Drive: **OMEGA 6**
 Operational force: **6 kN**
 Speed: **10 m/min**
 Motor: **KHF 47 DRE90L4**
 Adapter flange: **X (OK)**
 Shaft: **X (OK)**
 Mounting rail: **X (OK)**

* Depends on chain speed and duty cycle



Pi/Gamma pocket wheel blocks

Pi pocket wheels for vertical and horizontal drives

Gamma pocket wheels for drives with 90° wrap



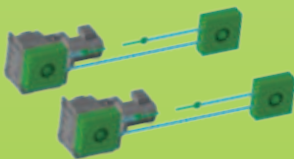
Pi drive principle

- versatile module for drive and reversing application.
- integrated roller bearings
- drive shaft free of additional power
- no shaft required when used as reversing module.
- integrated chain guide and straightener.
- available for all chain sizes on request

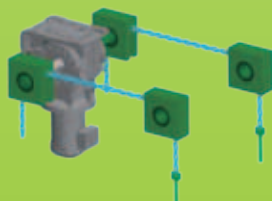
System applications for TECDOS Pi/Gamma:



Vertical Pi drive with double chain and two parallel drives



Horizontal drive
Double chain with two parallel Pi drives



Vertical Gamma drive
Double chain with a single drive

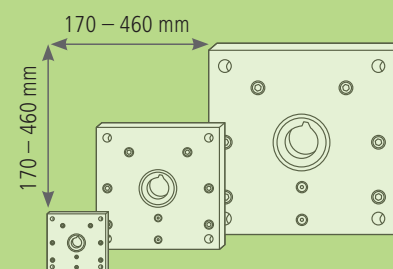
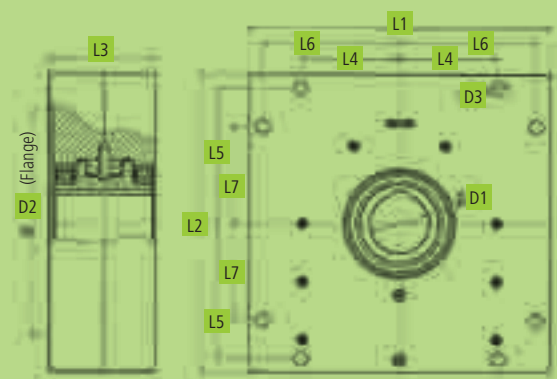
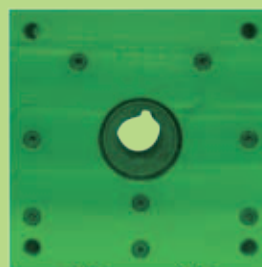
Also with 3 and 4 chains

- 3 and 4 chain options available with drive depending on application

Chain	No. of teeth (P.C.D.)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	L6 (mm)	L7 (mm)	ø D1 (mm)	ø D2 (mm)	ø D3 (mm)	Drawing number	P/n
TEC6	6	170	170	57	70	70	—	—	30 H7	110.5	11.0	H05091	7905451
TEC12	6	260	260	80	115	115	—	—	40 H7	180.5	13.5	H05094	7905430
TEC25	6	310	310	110.5	138	138	—	—	50 H7	230.5	17.5	H05095	7905520
TEC43	6	360	360	131.5	155	155	—	—	70 H7	250.5	21.0	H05080	7905745
TEC65	6	460	460	161.5	150	209	209	150	90 H7	350.5	21.0	H05099	7906750
TEC140	6												
TEC260	6												

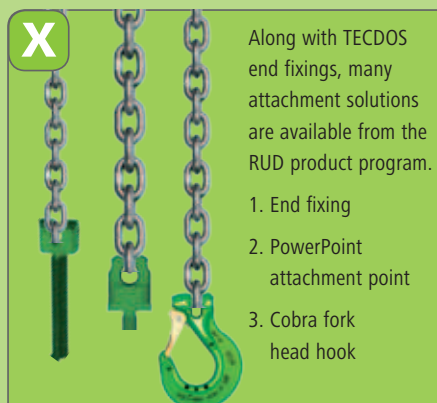
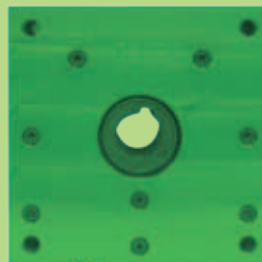
other sizes on request

Pi wrap angle 180°



Pi/Gamma drives can be fabricated to suit all chain sizes.

Gamma wrap angle 90°

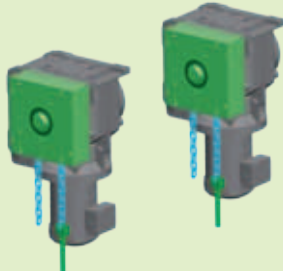
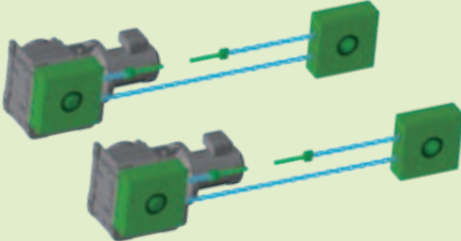
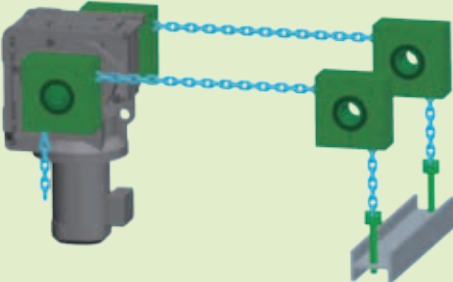
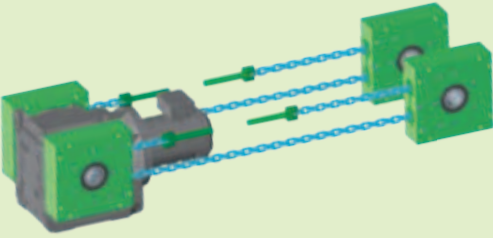

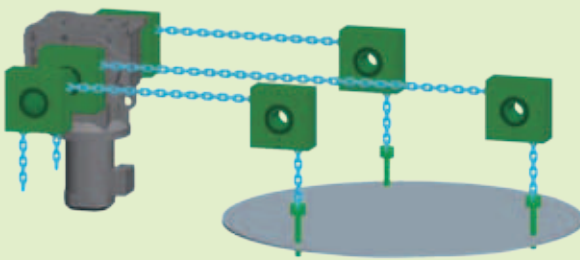
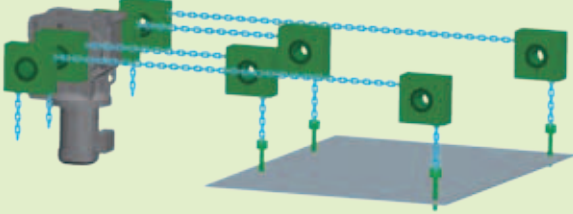



Along with TECDOS end fixings, many attachment solutions are available from the RUD product program.

- End fixing
- PowerPoint attachment point
- Cobra fork head hook

TECDOS® multiple chain systems

for drives with vertical or
horizontal / inclined configuration

VERTICAL DRIVES	HORIZONTAL DRIVES
Double chain with two parallel drives	Double chain with two parallel drives
	
Double chain with a single drive	Double chain with a single drive
	
3 chains with a single drive	 <div>TECDOS Offshore</div> <div>Innovative solutions for military applications.</div>
	
4 chains with a single drive	
	 <div>TECDOS Offshore</div> <div>Handling heavy moon pool platforms.</div>



Drive and reversing chain wheels

TECDOS chain wheels

- Rust and acid-resistant drive and guide wheels are also available on request
- The bore and hub design can be made according to customer request. In case of spline connection please indicate respective DIN standard.
- The designer has to select a shaft-hub assembly strong enough to bear the forces it will have to withstand.
- All TECDOS pocket wheels are ready machined and case hardened.

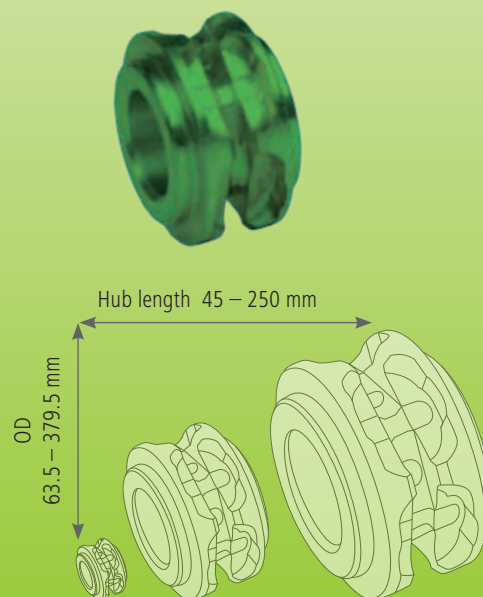
Chain	No. of teeth (P.C.D.)	Crown ø (mm)	Hub length B (mm)	Bore ø D (mm)	External ø F (mm)	No. of Nuts (P.C.D.) DIN 6885 (mm) P9	P/n
TEC 6*	6	58.4	45	30 H7	63.5	1	7905327
TEC 12	6	82.3	70	40 H7	89.5	1	7905328
TEC 25	6	108.0	100	50 H7	118.0	1	7905329
TEC 43	6	139.2	120	70 H7	152.0	1	7905330
TEC 65	6	174.5	150	90 H7	190.5	1	7905331
TEC 140	6	256.2	200	130 H7	279.5	2**	7905332
TEC 260	6	347.8	250	180 H7	379.5	2**	7905333



*) Standard TEC 6 - other sizes on request
 **) Keyways at 120° offset

Case hardened TECDOS pocket wheels are optimally designed to work with TECDOS chain and guarantee long life and silent running.

TECDOS drive and reversing chain wheels can be manufactured in single and multiple chain versions. Available on request for all chain sizes from TEC 6 to TEC 260.



Chain guide · Chain end fixing

TECDOS chain guides are used:

- under severe environmental conditions;
- when one chain strand is not loaded;
- when the chain is prone to jumping off the sprocket wheel;
- to ensure smooth running of the chain over the sprocket wheel

Two different options:

- The selection of the chain guide depends on the application and the operation environment. Please contact your RUD specialist for further information.

Milled chain guide, radially divisible

Chain	Pockets	Pockets	P/n
TEC 6	6	44783	7906322
TEC 12	6	H05129	7906186
TEC 25	6	H04738	7902719
TEC 43	6	H04673	7902294
TEC 65	6	H04635	7902289
TEC 140	6	H04677	7902320
TEC 260	6	H04618	7902038

Laser cut chain guide, radially divisible

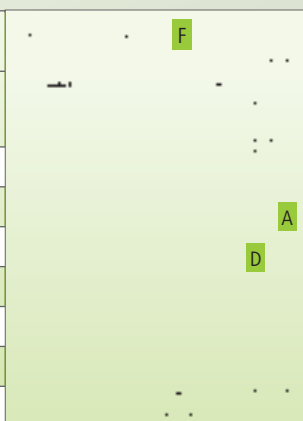
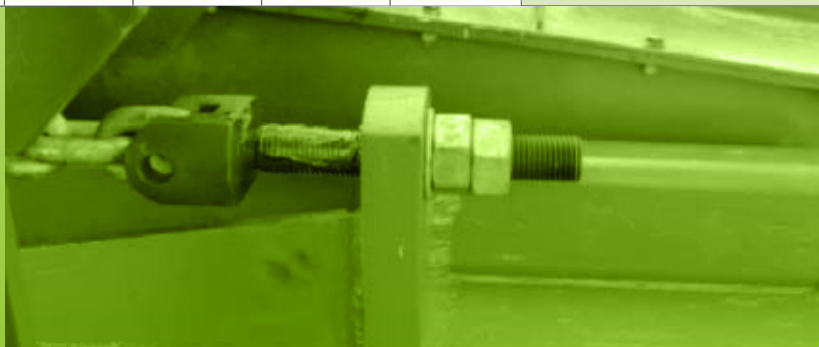
Chain	Pockets	Pockets	P/n
TEC 6	6	H04783	8504484
TEC 12	6	H05132	8504465
TEC 25	6	H04540	8503920



TECDOS end fixings

Designation	Chain	Operating force [kN]	A (mm)	D (mm)	F (mm)	P/n
HEBG-M12	TEC 6	7.2	103.0	79.0	32.0	7996526
HEBG-M16	TEC 12	13.3	139.0	107.0	42.0	7993561
HEBG-M24	TEC 25	27.2	198.0	155.0	56.0	7997341
HEBG-M30	TEC 43	43.3	249.0	195.0	70.0	7997329
HEBG-M36	TEC 65	65.6	303.0	237.0	82.0	7997326
HEBG-M42	TEC 140	141.0	388.0	293.0	116.0	7997385
HEBG-M48	TEC 260	262.0	482.0	353.0	160.0	7997420

TECDOS end fixings are manufactured out of a solid material without weldings (100 % crack tested).



TOOL MOVER



For the safe handling and rotation of heavy and precision injection moulding tools and other objects.



The problem

Problems with conventional rotating and turning equipment:

- Huge operator risk.
- Potential damage to costly tools.
- Damage to hoist brakes and ropes.

Benefits of TOOL MOVER

- The load is turned over at its centre of gravity, and therefore very smoothly.
- The TOOL MOVER table has a frequency-controlled drive for soft starting and stopping!
- No more accidents with sensitive, costly tools.
- No risk for the operator.
- Safe operation.
- Manual handling is no longer required.

Characteristics of TOOL MOVER

- The TOOL MOVER can be used anywhere in the plant, since it is not anchored to the floor and is very compact.
- The TOOL MOVER can be moved with a hoist (lifting points) or lift truck (fork insertion points).
- Since the TOOL MOVER table has a very low supporting surface¹, the open tool can be cleaned while on the table itself.
- The TOOL MOVER is equipped with PU plates to protect the tool.
- The TOOL MOVER can handle tools and objects weighing up to 32 tons.
- A siren to indicate that the table is operating is standard equipment.

1) only THS 10

TABLE DIMENSIONS

Type	Table surface in cm			Maximum load capacity in kg	Own weight approx. in kg
	L	H	W		
THS 10	100	100	100	10,000	1,700
THS 16	160	160	160	16,000	4,700
THS 20	160	160	160	20,000	5,000
THS 25	250	250	250	25,000	11,500
THS 32	250	250	250	32,000	11,700

* other sizes are available on special order



TOOL MOVER

SAVING A LIFE IS PRICELESS

TOOL MOVER

Tool mover

Handle heavy objects safely and easily



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Table area 100 x 100 cm – 250 x 250 cm

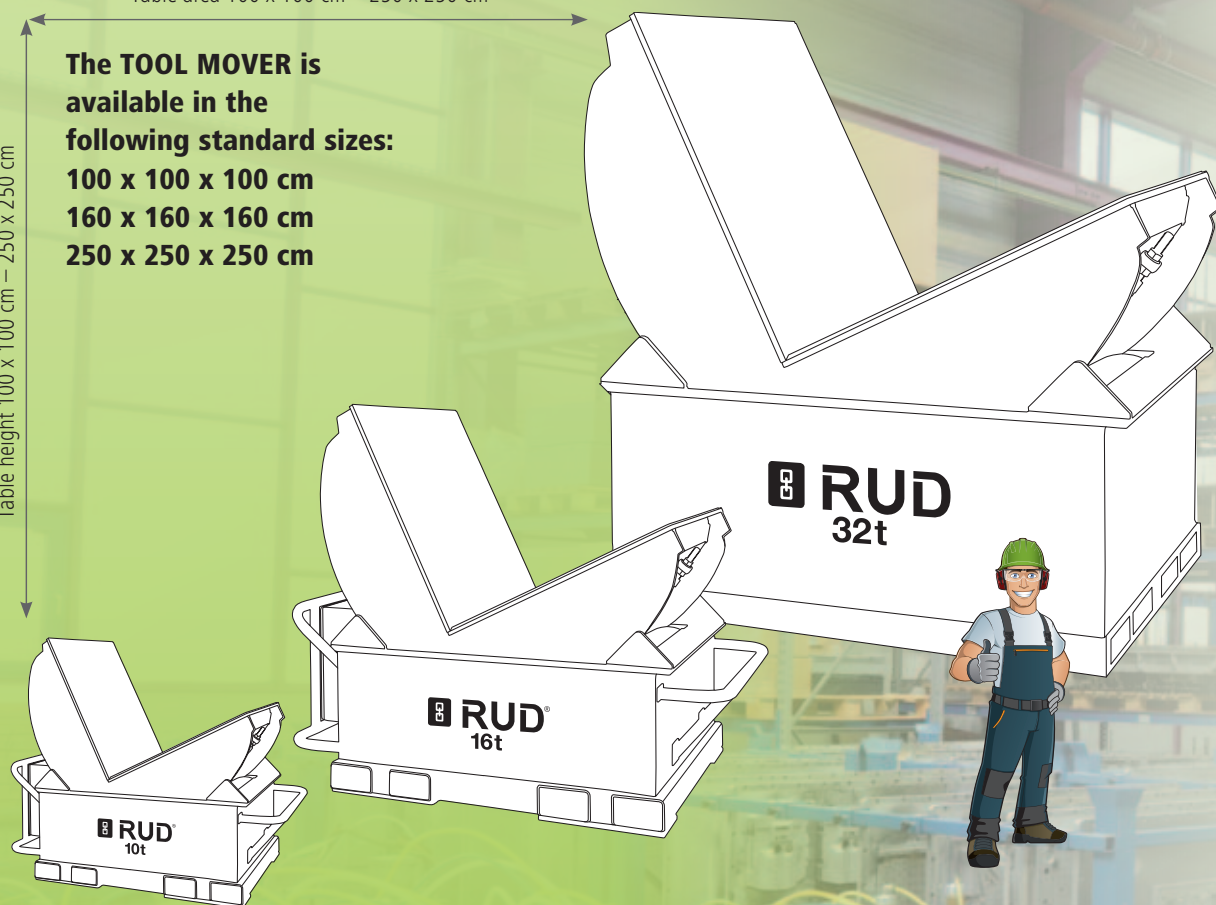
Table height 100 x 100 cm – 250 x 250 cm

The TOOL MOVER is available in the following standard sizes:

100 x 100 x 100 cm

160 x 160 x 160 cm

250 x 250 x 250 cm



- **Fast payback on initial investment**
- **Easy operation for time and cost savings**
- **Robust construction**
- **Easy to service**
- **Compatible for a vast range of tool sizes**
- **Numerous options (tailor made for your application)**
- **Flexible application (transportable by crane or lift truck)**
- **No risk for the operator**



More informations:
www.youtube.com/user/RUDKetten

Tool Mover Hotline:
Tel.: +49 - 7361 - 504 - 1442

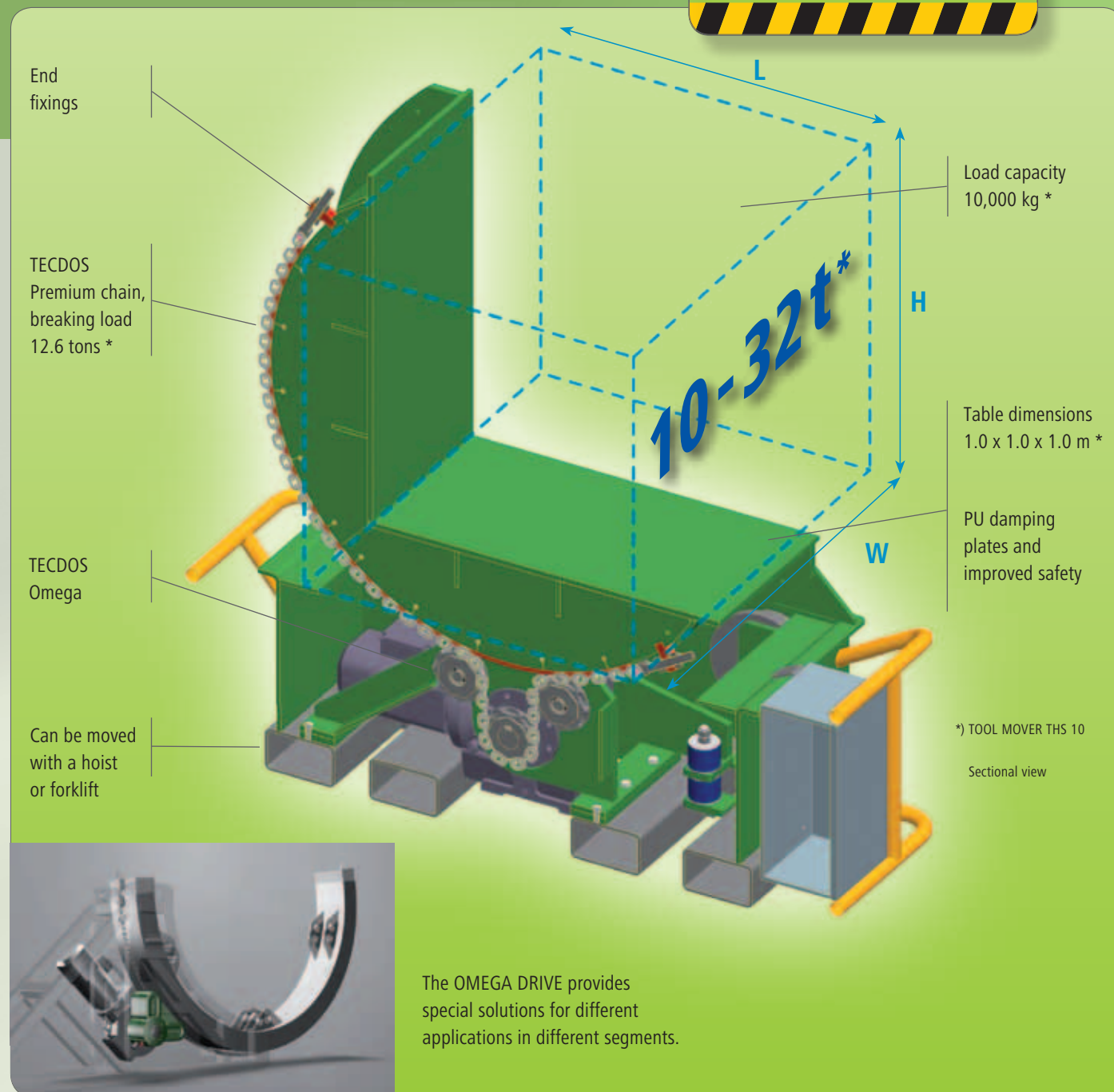


TOOL MOVER

Construction

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On request we offer you customized safety components to suit your individual safety regulations.



How the TOOL MOVER works: axial turnover up to 180°, always at the load's centre of gravity.



Installation instructions

Information for achieving optimum operational results

Installation of drive and reversing wheels

- Drive and reversing wheels must be installed to the shaft in such a way that they run smoothly and freely.
- They must rotate without jamming or hindrance.
- The wheels must be aligned axially to allow the chain to enter and exit the wheel tangentially.
- The chain must not rub against the flanks of the drive and reversing wheel teeth as they enter and exit.

Installing chain links

- The chain should run on the drive wheels in such a way that the vertical link welds are outermost. The chain should not be rotated between the drive and reversing wheels, nor between the wheels and any end fixing.

Installing chain guides

- When installing the chain guides, make sure that they are radially and axially aligned with the drive wheels. Make sure that the chain runs through the guides without hindrance.

Chain guides

- Chain guides are always required if the load of the chain only touches one side of the wheel, and the other side is under little or non load. A chain destripper should be provided at the loose side of the chain guide to untwist a twisted incoming chain.

Chain lubrication

- The chain should be lubricated at regular intervals in relation to the operating conditions to minimise adhesive abrasion of the links and increase the chain's service life.

End fasteners

TECDOS end fasteners are length-adjustable fixing points for connecting TECDOS heavy-duty chains to machines, structural elements and devices.

- The maximum load on the component corresponds to the maximum load on the corresponding round steel chain
- The design of the attachment point must be specified so that the applied initiated forces can be borne safely by the fixing part.
- The end fixing must be fitted so that a force passes into the component along the longitudinal axis. A lateral load causing bending stress in the chain or the end-fastener is not allowed. During assembly, the end-fastener must be aligned so that the chain can be fitted without twisting.

Chain preload

- If no chain guides are present, make sure that the chain is always preloaded. The preloading should be as low as possible, but must be greater than the friction of the return section (rule of thumb = 10 % of normal force). Under no circumstances should the chain lift off the wheel.

Shortening the chain

- If it is necessary to shorten the chain, the links being removed must be oriented in the same way.
- The links must be cut out carefully with a cutting disk or bolt cutter, without damaging neighbouring links.
- Make sure to prevent nearby links overheating.

Welding

- Do not weld TECDOS high performance chains or components.
- Do not use the chain to ground arc welding equipment.

Wear

- The chain drive must be checked for wear at regular intervals. When the discard criteria are satisfied, the entire worn component must be replaced.

Operating temperature

- RUD round link chains may be used without restriction up to 200°C. Premium case hardened chain can be operated down to -20°C, whereas Medium chain can be operated as low as -40°C. TECDOS Extra high performance chain can even be used at less than -40°C. If you intend to use round link chain in very high or low temperatures, we recommend discussing the application with RUD in advance.

Overloading

- To secure the chain drive against overloading and jamming, you must install appropriate protective equipment such as limit switches, slip clutches, shearing pins and similar.

Protection equipment

- Install guards to prevent physical contact with and access to the chain drive at particularly dangerous points of its run, such as at the drive and reversing wheels



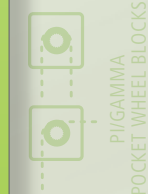
ROUND STEEL CHAIN



OMEGA-DRIVE SYSTEM



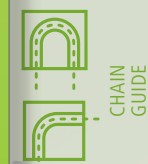
CONNECTION OPTIONS



PI/GAMMA-POCKET WHEEL BLOCKS



DRIVE AND REVERSING CHAIN WHEELS



CHAIN GUIDE



CHAIN END FIXING



TOOL MOVER COMPLETE SYSTEM

TECDOS high performance chains are extremely robust and require very little maintenance due to their simple construction. The following points must be observed for improved operating safety:

Maintenance

- Observe all applicable safety and accident prevention regulations when working on the chain drive. Also observe all installation, dis- and re-assembly, commissioning, operating and maintenance instructions provided by the manufacturer.

Preload

- Chain adjustment must be checked regularly, especially during running-in periods for new chain and/or in the case of extensive chain length. It should only be preloaded enough to assure problem free running in normal operating conditions. For multiple chain systems, all chains must be preloaded by the same amount. Too high a preload reduces the chain's service life.

- The check consists of inspecting the chain for external damage, deformation, fracture, wear and corrosion.



Lubrication

- Regularly lubricating a TECDOS high performance chain will yield a 15-20 times greater number of stress cycles than a dry, unlubricated chain. We recommend lubricating the entire chain before commissioning it. Make sure that all chain links are lubricated sufficiently in the interlink. No chain link should be overlooked as this leads to premature wear.
- When lubricating, make sure that the lubricant penetrates into the chain links which are most susceptible to wear. Pay special attention to the changeover links. Change-over links are those links which stop on, resp. immediately at the inlet of the drive and reversing wheels at constant stroke when switching from lifting to lowering. These links are particularly highly loaded by dynamic forces and must therefore be lubricated frequently to prevent premature wear.
- The choice of lubricant depends on the operating and environmental conditions. Recommended lubricants are listed on the RUD website at www.rud.com

Checking the chain drive

- The chain must be checked at regular intervals, at least annually, as required by applicable safety regulations.
- For more frequent duty, in the presence of wear, corrosion, heat and chain damage, the inspection interval must be reduced in relation to the actual operating conditions. Chain inspection should be done at nominated lubrication intervals.



Please copy and fax or send to:

+49 7361 504-1523

RUD Ketten

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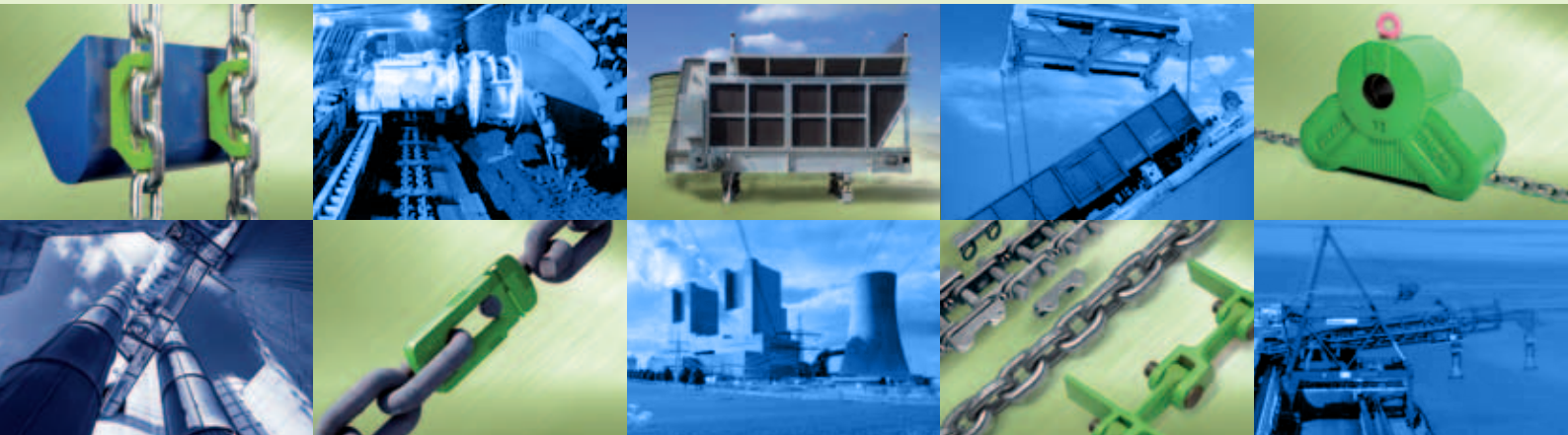
tecdos@rud.com

www.rud-tecdos.com

Firm:*		Responsible:*	
Street:*			
ZIP / City:*			
Date:		Signature:	
Project			
Task:		<input type="checkbox"/> lifting <input type="checkbox"/> pulling	
		<input type="checkbox"/> other:	
Maximum tensile strength on the chain [kN]:		Weight [kg]:	
Lifting speed:		Friction factor [μ]:	
<input type="checkbox"/> Constant <input type="checkbox"/> Variable			
max. speedup		max. detention :	
m/s ²		m/s ²	
Speed from:		to:	
m/min		m/min	
Cycle operation?		Cycles per:	
<input type="checkbox"/> Yes <input type="checkbox"/> No			
Duty and passive state per cycle:			
Total operating time daily:		annually:	
h		h	
Lenght of traverse path: :			
mm			
Number of load chain strands:			
<input type="checkbox"/> New project		<input type="checkbox"/> Conversion Retrofit (specify housing dimensions)	
Drive pocket wheel - pitch circle diameter:			
mm			
Drive shaft diameter:			
mm			
Chain used before conversion, type and dimensions, max breaking load, operating time and reason for the break down			
Environmental influences: <input type="checkbox"/> corrosive <input type="checkbox"/> abrasively <input type="checkbox"/> temperature <input type="checkbox"/> others			
Classification:			
Remarks:			



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CONVEYING AND DRIVING



Whether you're looking for a complete bucket elevator, chain conveyor or chain drive, our wide experience in bulk goods handling, including cement, fertiliser, aggregates among many others, makes RUD the one-stop shop for your application.



For power generation with coal and biomass, as well in the recycling sector, RUD is a leading technology supplier for components and complete solutions based on round link chains and the FORKY product line. Whether for material feeding, ash removal or cleaning scrapers, RUD CRATOS has the solution you're looking for.



RUD Powerblock and Dominator shackles set the benchmark worldwide and their unbeatable reliability makes them number one choice for high performance mining operations.



RUD components are the first choice worldwide for leading hoisting equipment manufacturers. We also offer a wide range of round link chains for industrial applications of all kinds.



The RUD TECDOS Team develops and fabricates drive solutions for turning, lifting, moving, telescoping and skidding goods. Along with our component program, TECDOS Omega and Pi drives are now available as complete solutions.