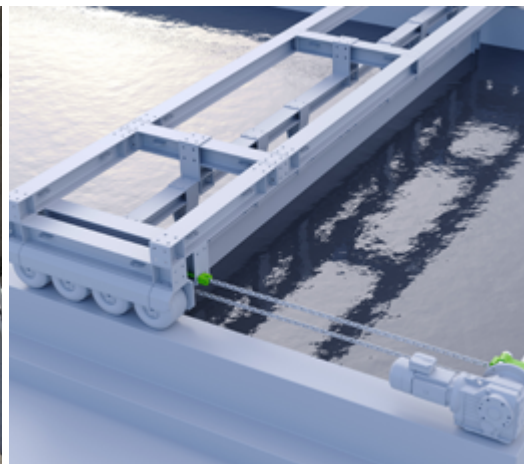
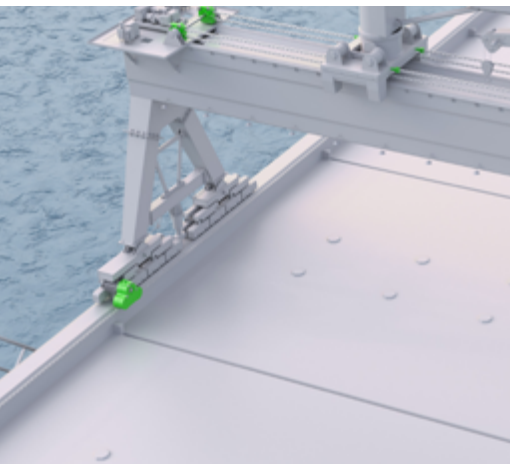


DRIVE TECHNOLOGY

PIVOTING · LIFTING · MOVING · TELESOPING · ROTATING
WITH THE TECDOS ROUND LINK CHAIN



POWERFUL IN EVERY ENVIRONMENT

- ✓ Durable, reliable and safe
- ✓ Complete solutions for all requirements
- ✓ Competent on-site service

RUD DRIVE SYSTEMS

POWERFUL IN ANY ENVIRONMENT

RUD TECDOS drive systems offer complete technical systems for generating motion by means of power transmission. A range of standard components can be combined modularly to form RUD TECDOS complete systems.

In places where other systems fail, the RUD TECDOS portfolio proves its worth. It covers a wide range of applications industry-wide and across all sectors, reliably and safely swiveling, lifting, moving, telescoping and rotating.

RUD offers complete solutions

In addition to individual parts and intelligent and cost-effective modules, RUD TECDOS also offers complete systems specifically for your challenges.

RUD guarantees product quality

RUD TECDOS components and modules prove themselves when other systems fail. Safe, trouble-free operation is possible even under adverse environmental conditions.

RUD stands for innovative strength

RUD TECDOS offers drive innovations for applications in the industrial, port and offshore sectors. Always in search of the optimum.

RUD promises competent advice

In our sales team, you will find competent contacts worldwide who will provide you with technical advice and meet any challenge.

USE IN A WIDE VARIETY OF INDUSTRIES:

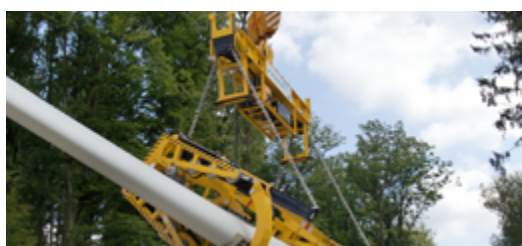
Maritime & Inland Waters | Hydraulic Steelwork | Building Dynamics |
Handling Solutions | Automotive

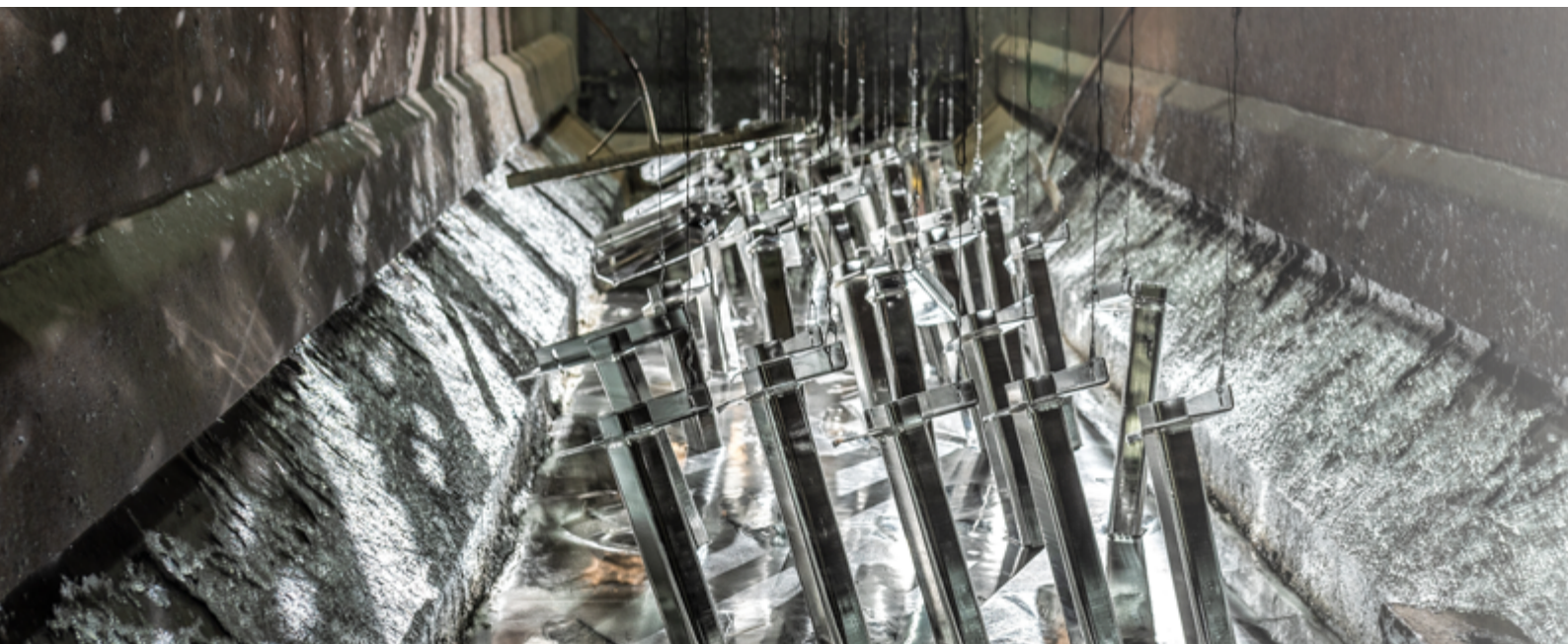


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RUD TECDOS drive technology in use:





The background of the page features three vertical panels of images. The top panel shows a close-up of a grey, textured surface, possibly a conveyor belt or a large storage bin. The middle panel shows an orange excavator with a white cab, positioned on a dark, flat surface, likely a construction site or a port. The bottom panel shows a close-up of a dark, textured surface, possibly a conveyor belt or a large storage bin.

1. Branches at a glance

**HIGH
PERFORMANCE
IS OUR DRIVING
FORCE.**

Whatever direction you want to move something in, the combination of TECDOS components provides suitable solutions for the most diverse fields of industry.

1. RUD TECDOS® Branches at a glance







A vertical chain of interlocking metal links, likely made of stainless steel, runs down the left side of the page. The links are highly reflective, showing highlights and shadows that give them a three-dimensional appearance.

2. SYSTEMS & PRODUCTS

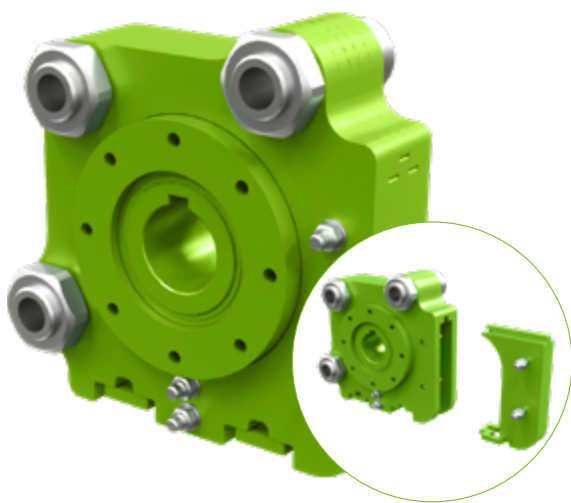
SAFE THROUGH DAILY LIFE.

Our systems and components guarantee sustainable solutions, even under difficult conditions. TECDOS systems are user friendly and can be combined flexibly.

2. RUD TECDOS® systems and products

2.1 RUD TECDOS® PI-GAMMA DRIVE

TECDOS PI-GAMMA pocket wheel blocks are particularly suitable for horizontal / ascending and vertical use with a fixed 180 degree (PI) or flexible 90 to 180 degree deflection (GAMMA).



Attachments TECDOS® PI-GAMMA:

Along with TECDOS end fixings, many attachment solutions are available from the VIP lifting means* program.



*The VIP standard bolt must be replaced by a TECDOS special bolt when combining TECDOS chains.

TECDOS® PI-GAMMA drive principle

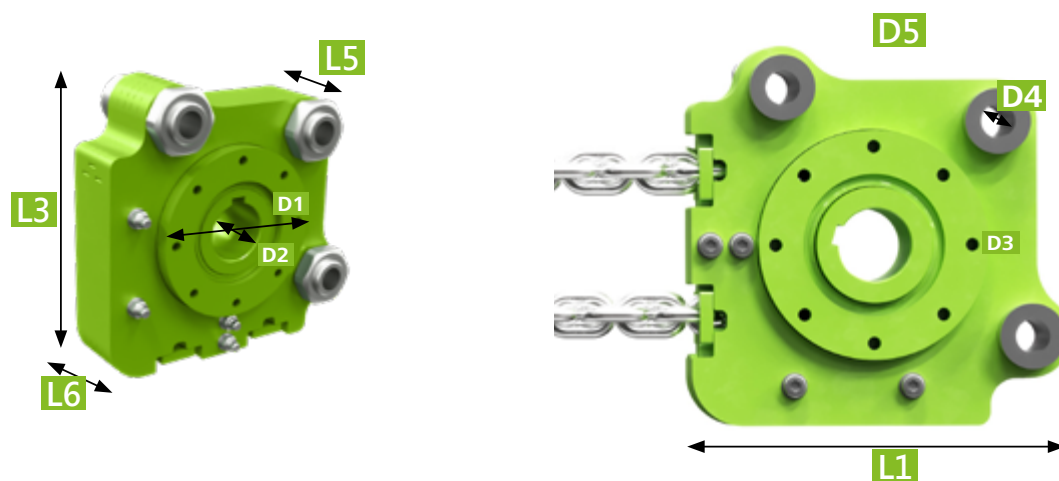
The system can be used as either drive or deflection modules with integrated roller bearings. This means the drive shaft is free from any additional forces and does not need a shaft if used as a deflection module. Integrated chain guide and straightener. PI-GAMMA drives are available in sizes to suit TEC6 - TEC260 TECDOS dimensions.

Advantages:

- Flexible, durable, reliable and safe
- Complete solutions for all requirements
- Galvanized surface (doesn't apply to the entertainment area)
- Small sizes & heavy loads | quiet running | also in black
- Competent on-site service
- The TECDOS drive unit with insert enables a 180° redirection
- When the insert is removed, the drive unit enables a redirection between 90° and 180°
- Integrated bearing
- Chain guide and stripper integrated
- Drive shaft without any additional forces
- Shaft not required when utilising redirection module

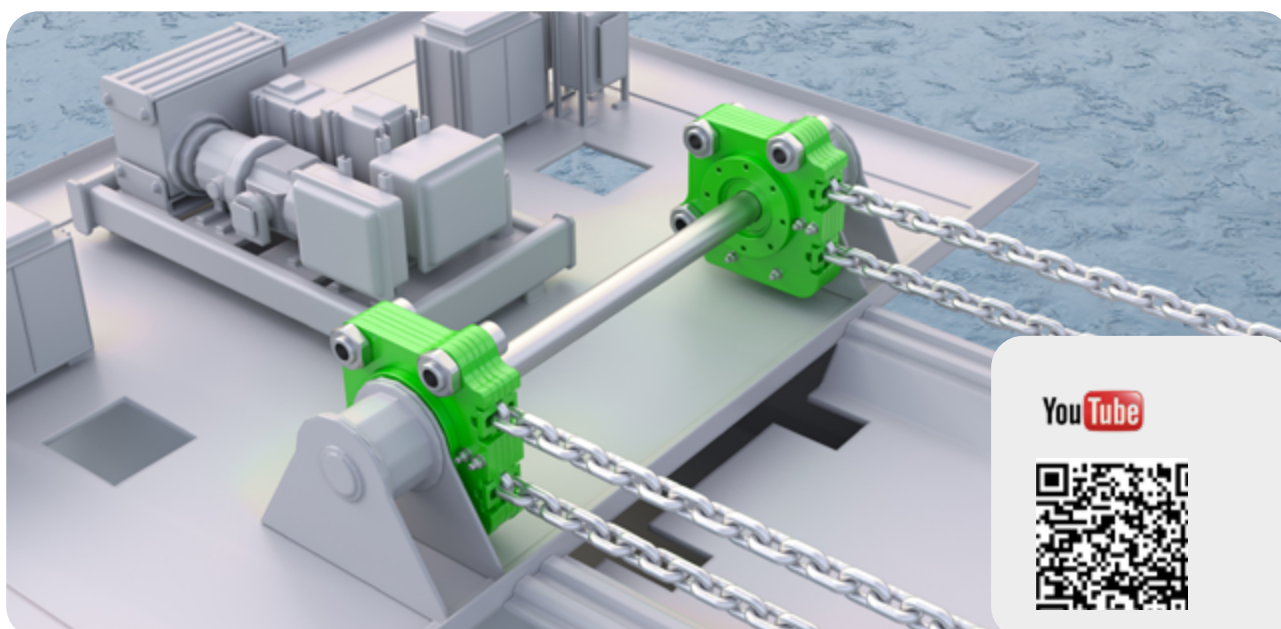
NOTE

We can provide special paintwork according to maritime specifications on request.



Chain	No. of teeth	Pitch circle diameter [mm]	L1 [mm]	L3 [mm]	L5 [mm]	L6 [mm]	D1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	D5 [mm]	Work-manship	Weight [kg]	Part no.
TEC 6	6	58,4	145	145	60	50	30	75	M6 x 12	13	-	3 Hole	4,5	7910312
TEC 12	6	82,3	206	210	83	79	40	100	M8 x 20	14	25	4 Hole	12,0	7910647
TEC 25	6	108,0	259	265	110	105	50	140	M12 x 20	19	25	4 Hole	26,0	7910670
TEC 43	6	139,2	314	328	140	126	70	185	M16 x 30	22	25	4 Hole	55,0	7910702
TEC 65	6	174,5	373	373	150	146	90	210	M16 x 35	28	25	4 Hole	84,0	7910357
TEC 140	6	256,2	495	548	220	214	130	316	M16 x 39,5	50	25	2 Hole	270	7912280
TEC 260	6	347,8	710	620	258	254	180	330	M16 x 39,5	50	25	2 Hole	536	7912304

TECDOS PI-GAMMA drives can be manufactured to match all chain sizes and numbers of teeth. Other sizes on request.



2. RUD TECDOS® systems and products

2.2 System applications for TECDOS® PI-GAMMA

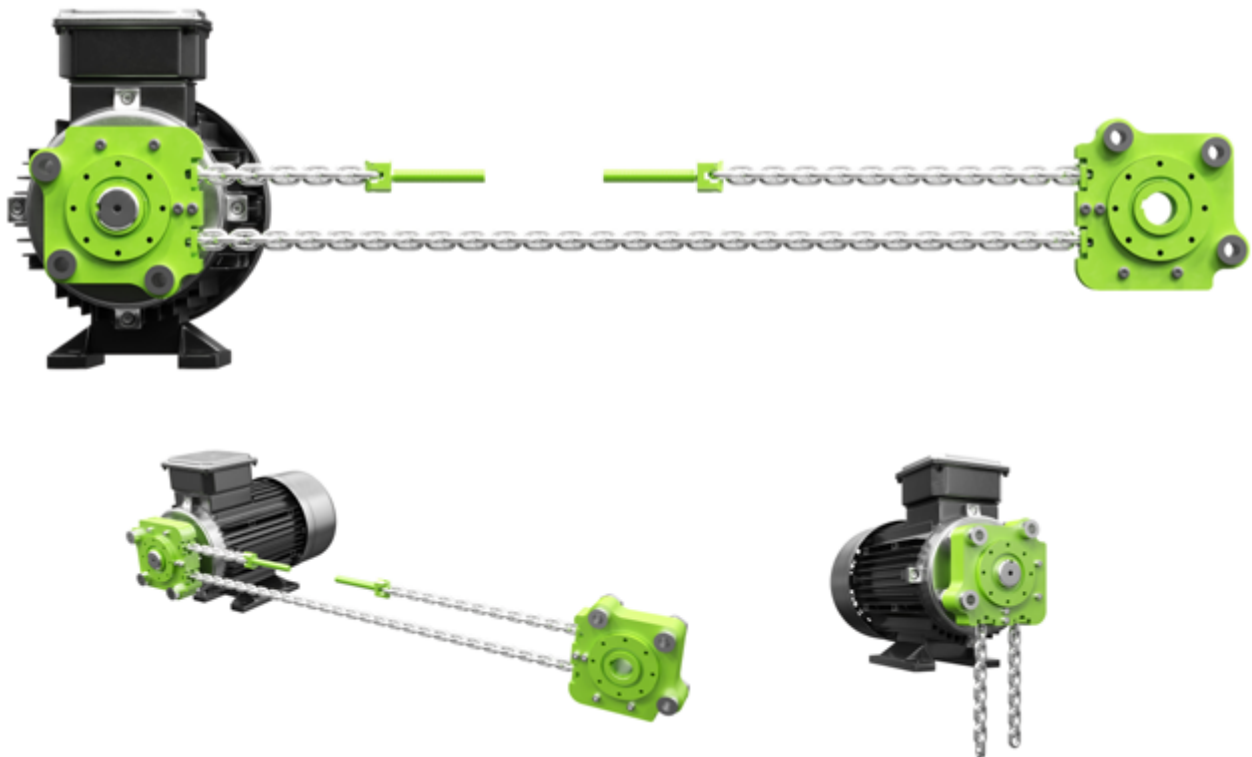
Modular design for highest-possible flexibility when selecting electrical, hydraulic or pneumatic motors. Also available in black: perfect for use in stage and event technology.

Horizontal TECDOS® PI-GAMMA drive

Horizontal (fixed 180 degrees) drive in a double arrangement with two parallel PI drives. Also in 3 and 4-way arrangement possible depending on the application.

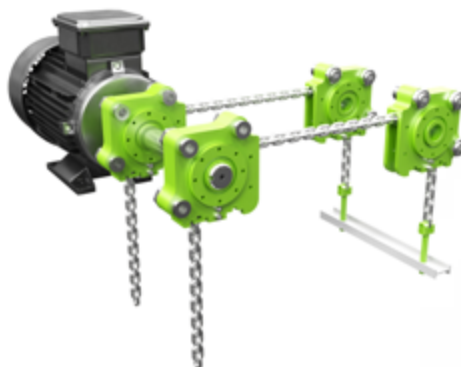
Vertical TECDOS® PI-GAMMA drive

Vertical (fixed 180 degrees) drive in a double arrangement with two parallel PI drives. Also in 2-, 3 and 4-way arrangement possible depending on the application.



Double strand with TECDOS® PI-GAMMA drive

Flexible (90 to 180 degrees) drive in a double arrangement with one drive.
Also in 3 and 4-way arrangement possible depending on the application.



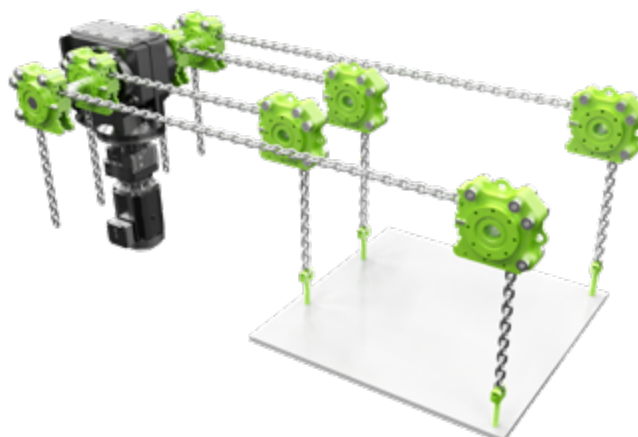
3-way arrangement with TECDOS® PI-GAMMA drive

TECDOS PI-GAMMA 3-way arrangement with chain drive.



4-way arrangement with TECDOS® PI-GAMMA drive

TECDOS PI-GAMMA 4-way arrangement with chain drive.



2. RUD TECDOS® systems and products

2.3 RUD TECDOS® OMEGA DRIVE | INNOVATIVE DRIVE SYSTEM

OMEGA DRIVE is the ideal drive solution for linear or rotating movements. In order to process a running crane trolley on a carrier, ship cranes on a rail or for skid application. The OMEGA DRIVE is superior to comparable rack and pinion and sprocket wheel solutions.

In comparison it is less sensitive to dirt, sand, ice, etc., is easier to mount and tolerates deviations of alignment. The modular concept allows the drive through electric, hydraulic or pneumatic motors, at order point electric motor can be supplied.

OMEGA DRIVE principle

Drive shaft free of additional forces

Integrated chain guide

Guide wheels

Plain bearings on hub



OMEGA DRIVE complete system

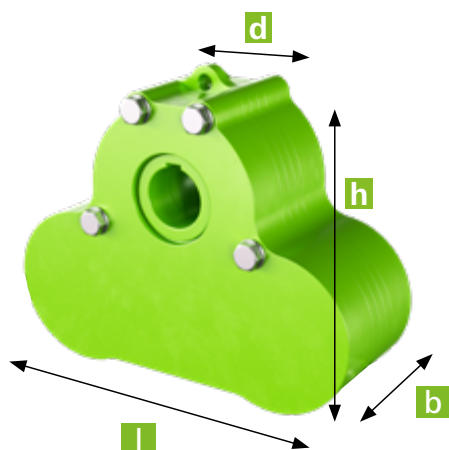
This innovative drive concept also runs smoothly when rack drives, spindle drives or roller chains reach their limits. Dirt, rain, aggressive media and even ice do not stop the RUD OMEGA DRIVE.

This drive concept has proven itself in numerous applications around the world.
References on request.

OMEGA DRIVE applications

Moving cranes on ships, tracking solar panels in the sun or simply moving a machine - RUD OMEGA is the perfect, innovative drive solution.

Attachments for flanging motors on request.



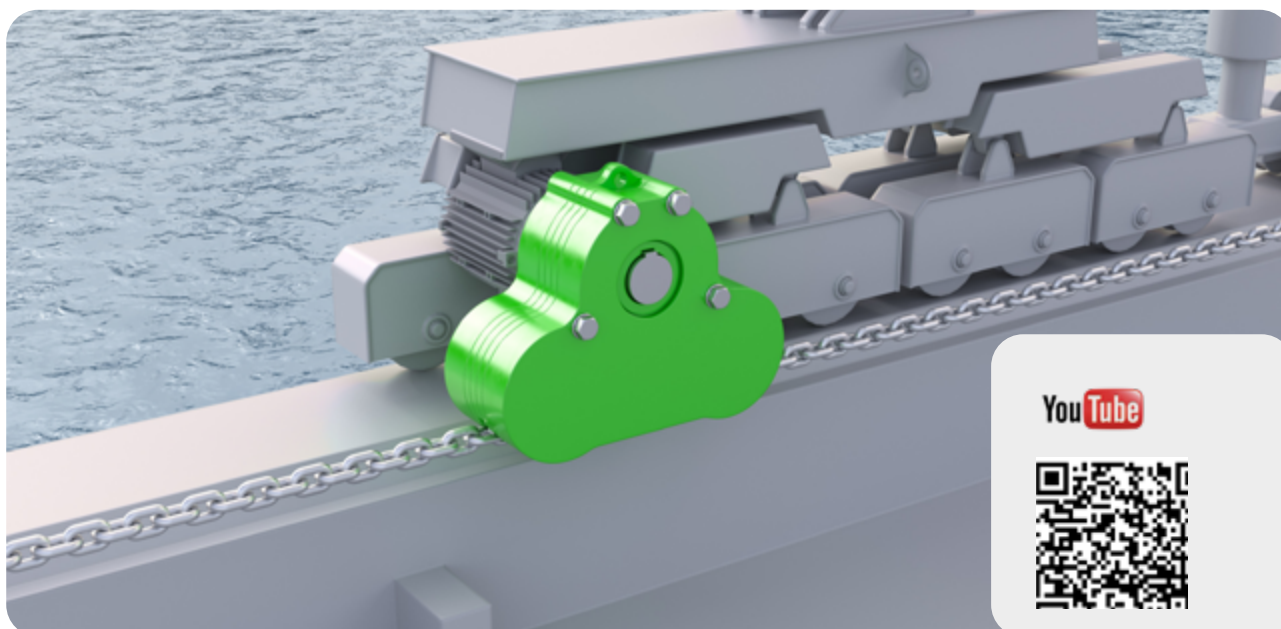
TECDOS® OMEGA DRIVE

Approval by major
maritime classification
societies possible

Specifications:

- Operating force 6 – 260 kN
- Mobile or fixed drive
- OMEGA DRIVE Weight 8,2 - 1.327 kg
- Chain speed 1 - 6 m/minute with full load, up to 12 m/minute with part load
- Custom painting possible

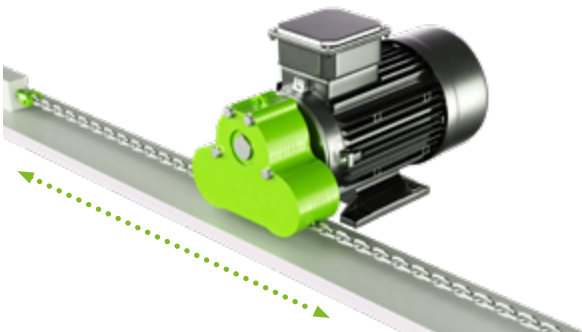
Designation	Height (h) [mm]	Width (b) [mm]	Depth (t) [mm]	weight [kg]	Diameter (d) shaft mounting [mm]	Number of key-ways DIN 6895 [mm] P9	Part no.
OMEGA TEC 6	155	200	73	8,2	25 H7	1	7911329
OMEGA TEC 12	250	280	102	22	40 H7	1	7911339
OMEGA TEC 25	316	372	150	60	50 H7	1	7911347
OMEGA TEC 43	400	472	162	95	70 H7	1	7911374
OMEGA TEC 65	468	580	220	195	90 H7	1	7911383
OMEGA TEC 140	684	867	295	611	130 H7	2 (120°)	7912475
OMEGA TEC 260	913	1,176	371	1,327	180 H7	2 (120°)	7912465



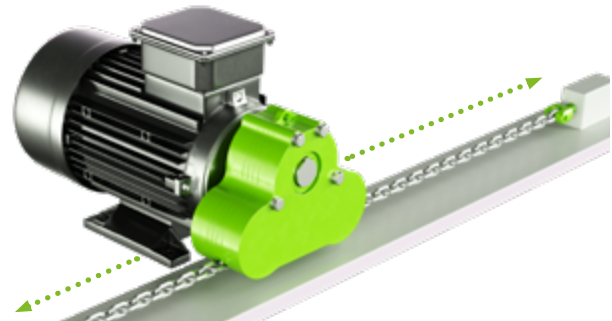
2. RUD TECDOS® systems and products

2.4 RUD TECDOS Complete system | Versatile drive systems for linear & curved motion

Linear travel, fixed drive and moving-chain / equipment



Moving drive and fixed chain / equipment



Fixed drive and rotating chain / equipment



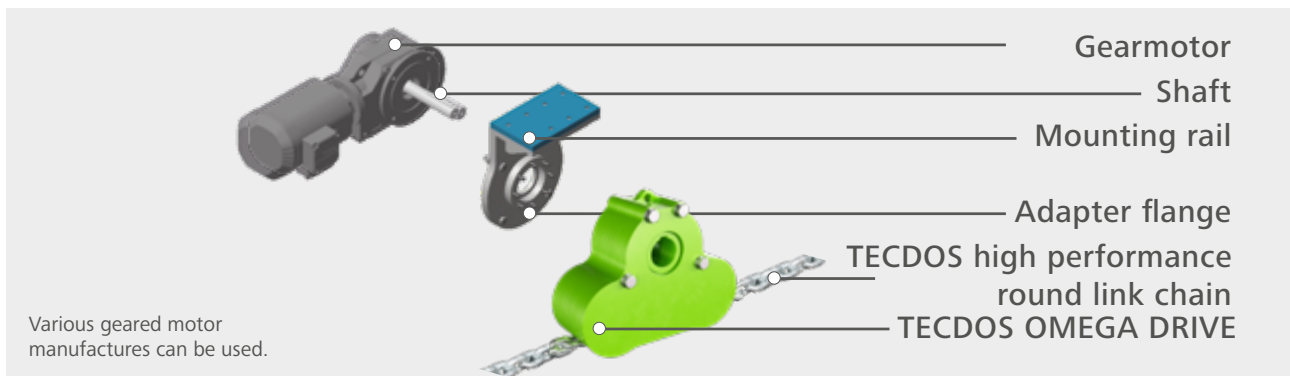
Fixed chain, drive / equipment moving along curved path



Your perfect companion for various systems:

- Moving harbour and ship cranes
- Aligning and adjusting ship loading and unloading
- Opening and closing sliding doors in the holds
- Rotating and lifting platforms
- Propulsion for ferries on rivers and lakes
- Moving wagons for unloading
- Extending telescopic booms for ship loaders and cranes
- Moving sea posts (spud pole)
- Traversing Skidding Systems

For maximum flexibility in the choice of an electric, hydraulic or pneumatic motor



Product advantages:

- less sensitive to dirt, sand, ice
- easy assembly
- tolerates alignment and measurement deviations, such as temperature elongation
- does not generate reaction forces
- can be used in all directions
- weather and corrosion resistant
- TECDOS® OMEGA DRIVE is available in 7 various operational forces:



YouTube



2. RUD TECDOS® systems and products

2.5 RUD TECDOS® ROUND LINK CHAIN

The core component of each TECDOS system application is a highly wear-resistant RUD round link chain for maximum service life – even with wear-resistant media. Extremely dynamic strength therefore ensures maximum operational safety.

TECDOS is always the best solution:

- when high forces have to be transmitted within limited space
- when three-dimensional mobility is required
- under severe environmental conditions
- when exposed to weather
- in offshore, underwater and harbour applications
- when the means of traction has to have optimized storage capacity

TIP

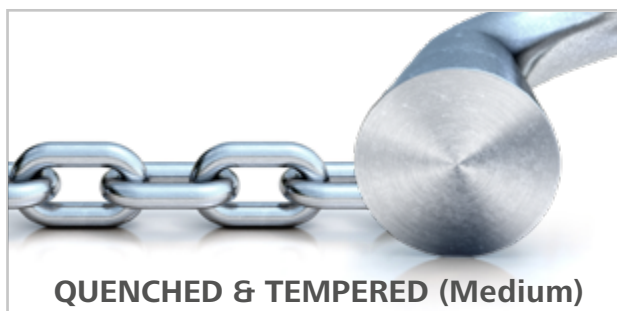
Lubrication enables you to achieve up to 10-15 fold service life.

The right chain for your application:





- when frequent use is required



- when infrequent use is required



Corrosion protection for TECDOS® high performance chain

surface	short description of surface coating	new condition	After 100 hours salt-spray test
Electrolytic galvanised	electrolytic metal deposition (6-10 µm)		
topcoat silver	chemikalienresistente, organisch vernetzte, mikroschichtbildende Deckbeschichtung (5-12µm)		

Medium

quenched and tempered chain HV approx. 360



Premium

case hardened chain HV 580 – 600



Sizes

round link chain is available in 7 sizes



Chain	Working load [kN]	Breaking force [kN]	Weight approx. [kg/m]	Part-no.	
				Medium	Premium
TEC 6	6	34,0	0,59	7905137	7905146
TEC 12	12 ²	65,1	1,13	7905102	7905113
TEC 25	25 ²	126,0	2,24	7905093	7905068
TEC 43	43 ²	212,3	3,80	7905057	7905040
TEC 65	65 ²	322,0	5,70	7904959	7905020
TEC 140 ¹	140 ²	694,0	12,30	7904948	7905015 ³
TEC 260 ¹	260	1315,0	22,6	7904947	7912664

¹ topcoat silver ² When using with TECDOS chain connectors the operational force of the chain has to be adapted according to the specification of the connectors. ³ max. 44 m length per strand



2. RUD TECDOS® systems and products

2.6 RUD TECDOS® ROUND STEEL CHAINS IN SPECIAL GRADE RTB

As the world's leading equipment supplier, RUD now also sets standards in hot-dip galvanizing. The highly wear-resistant hoist chains according to DIN EN 818-7 for motor-driven hoists defy the high demands of the industry and convince with highest quality!

RUD round link chain especially for hot-dip galvanizing in special grade RTB

- case hardened and phosphated surface
- therefore high resistant
- particularly high toughness and resistant to hydrogen embrittlement through special steel quality
- durable and robust
- always reliable, whether operated very frequently or very infrequently
- low tension in the deflection in the smallest possible space, thanks to the space-saving RUD pocket wheels
- easy and space-saving storage

Suitable for all areas in the galvanizing plant:

Sandblasting: resistant to dust and dirt

Degreasing: resistant to alkaline or acid degreasing agents

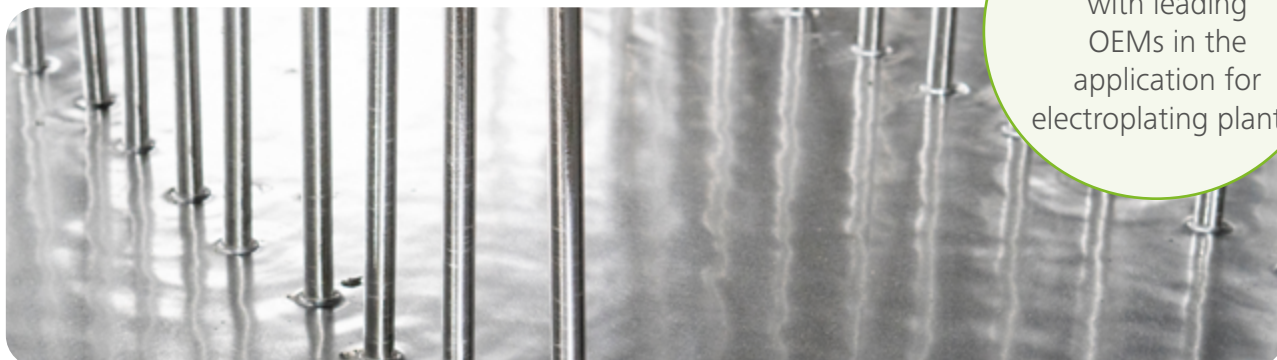
Pickling: resistant to emissions of acids

Fluxing: resistant to emissions of flux additives such as zinc chloride (ZnCl_2) and ammonium chloride (NH_4Cl)

Galvanizing: temperature resistant even at high ambient temperatures



Over 70 years
close cooperation
with leading
OEMs in the
application for
electroplating plants



Dimensions [mm]	Material No.	Load capacity F_v [kg] according to mechanism group				Manu- facturing proof force $F_{F_{pmin}}$ [kN]	Breaking force F_{Bmin} [kN]	Weight [kg/m]
		M3 (1Bm)	M4 (1Am)	M5 (2m)	M6 (3m)			
		Nominal stress: 160 N/mm ²	Nominal stress: 140 N/mm ²	Nominal stress: 125 N/mm ²	Nominal stress: 112 N/mm ²			
		Safety factor 5	Safety factor 5,7	Safety factor 6,4	Safety factor 7,1			
4 x 12	63502	410	350	320	280	12,6	20,1	0,35
5 x 15	63503	640	560	500	440	19,6	31,4	0,54
7 x 21	63504	1.250	1.090	980	870	38,5	61,6	1,10
9 x 27	63634	2.070	1.810	1.620	1.450	63,6	102	1,80
11,3 x 31	7900171	3.270	2.860	2.550	2.280	100,3	160,5	2,85
13 x 36	7900164	4.330	3.780	3.380	3.030	132,7	212,3	3,80
16 x 45	7901073	6.550	5.730	5.120	4.590	201	322	5,70



2. RUD TECDOS® systems and products

2.7 RUD CHAIN CONNECTOR | END FIXING

RUD TECDOS® chain connector

TECDOS chains and connectors form a reliable system. Both components perfectly fit in combination with the OMEGA DRIVE or chain wheels.

Features:

- Connects the chain to an endless chain loop
- Attention: Operating forces are limited to maximum power of the chain connector

Chain size	Working load [kN]	Load cycles to failure	Max. allowed chain speed	surface	Weight [kg]	Part no.
TEC 12	9	20.000	8 m/min	lackiert	0,035	7908978
TEC 25	18	20.000	8 m/min	lackiert	0,095	7908986
TEC 43	30	20.000	8 m/min	lackiert	0,2	7908995
TEC 65	45	20.000	8 m/min	lackiert	0,38	7908990
TEC140	100	20.000	8 m/min	lackiert	1,15	7906522

Achtung: Betriebskräfte werden auf maximale Kraft des Kettenschlosses begrenzt



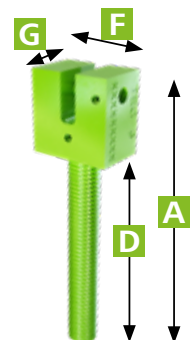
RUD TECDOS® chain end fixing

The chain end fixing for linking the chain and load-supporting structures transfers 100% of the TECDOS chain operating forces. Thanks to its adjustable axis, it ensures the greatest possible flexibility during use.

Characteristics:

- transfer 100% of the TECDOS chain operating forces
- axially adjustable
- suitable for all TECDOS systems

Designation	Chain	Betriebs-Working load [kN]	A [mm]	D [mm]	F [mm]	G [mm]	Weight [kg]	Part no.
HEBG-M12	TEC 6	6	114	84	30	20	0,3	7909076
HEBG-M16	TEC 12	12	145	105	40	30	0,6	7909077
HEBG-M24	TEC 25	25	229	169	60	40	1,9	7909078
HEBG-M30	TEC 43	43	287	217	70	45	3,2	7909079
HEBG-M36	TEC 65	65	379	279	100	54	6,8	7909080
HEBG-M42	TEC 140	140	567	447	120	75	13,5	7909081
HEBG-M48	TEC 260	260	592	442	150	100	23,5	7909082



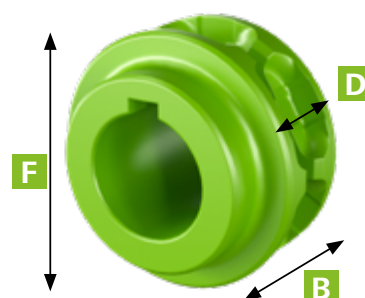
2.8 RUD POCKET WHEELS

RUD TECDOS® pocket wheels

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

Features:

- All TECDOS chain wheels are made of low-alloy steel, completely mechanically processed and tempered o.r. hardened
- Chain wheels available for loads from 6 kN up to 260 kN
- Geometry of the pockets is perfectly coordinated to the TECDOS round steel chain
- The bore and hub designs can be designed as customer-specific requirements (toothing possible with specification from DIN standard)
- Rust resistant and acid resistant drive and redirection wheels available on request



chain size	No. of pockets*	Pitch circle diameter Ø (mm)	Hub length B [mm]	Bore Ø D [mm]	Outer Ø F [mm]	No. of Keyways DIN 6885 P9 [mm]	Weight [kg]	Part no.
TEC 6	6	58,4	45	30 H7	63,5	1	0,5	7905327
TEC 12	6	82,3	70	40 H7	89,5	1	1,5	7905328
TEC 25	6	108,0	100	50 H7	118,0	1	3,8	7905329
TEC 43	6	139,2	120	70 H7	152,0	1	7,1	7905330
TEC 65	6	174,5	150	90 H7	190,5	1	13,0	7905331
TEC 140	6	256,2	200	130 H7	279,5	2**	42,6	7905332
TEC 260	6	347,8	250	180 H7	379,5	2**	101,0	7905333

*) Standard 6 pockets other sizes on request

**) Keyways at 120° offset



2. RUD TECDOS® systems and products

2.9 RUD FOOLPROOF HIGH DYNAMIC SHACKLE

RUD TECDOS® foolproof high dynamic shackle

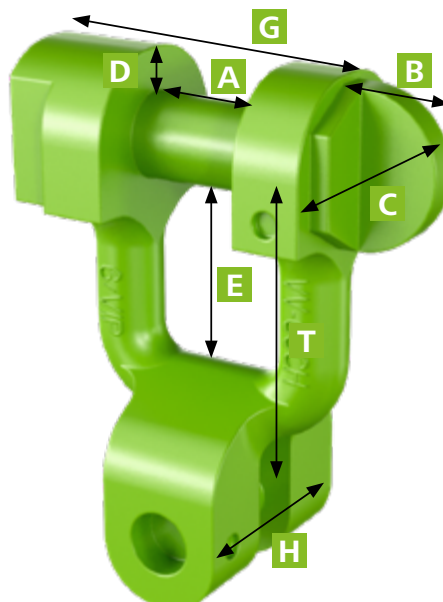
High tensile version with an integrated safety thread in the shackle bracket.

Features:

- Smooth bolt support in the shackle on both sides. The bolt is turnable
- No bending strength in the thread (only a securing function)
- Optimal adaptation - max. mouth width with the smallest shackle bolt
- Owing to the turned clevis connection, it is extensively resistant to bending
- long term securing by driving in the pre-assembled tensioning sleeve
- Special thread, thus distinctive in comparison to other shackle bolts
- Pre-assembled connecting bolt and tensioning sleeve

Designation	Chain	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	G [mm]	H [mm]	T [mm]	Weight [kg/Stk.]	Part no.
Schäkel- VV-GSCH 6	TEC 6	17	8	22	10	21	40	28	36	0,13	7909779
Schäkel- VV-GSCH 8	TEC 12	21	10	26	12	32	48	39	48	0,27	7909780
Schäkel- VV-GSCH 10	TEC 25	27	13	34	16	35	62	44	60	0,6	7909781
Schäkel- VV-GSCH 13	TEC 43	33	17	42	20	41	81	59	78	1,3	7909782
Schäkel- VV-GSCH 16	TEC 65	38	21	49	24	49	95	69	96	2,25	7909783
Schäkel- VV-GSCH 22	TEC 140	53	30	76	36	72	130	95	132	6,43	7909784

Attention, this component has been modified for TECDOS applications. Standard components from the RUD VIP Family are suitable for TEC-DOS drive chains.



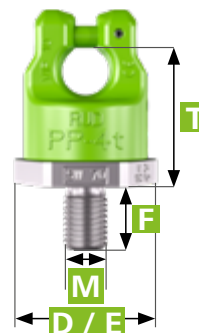
2.10 RUD POWERPOINT FIXING POINT

RUD TECDOS® PowerPoint fixing point

RUD fixing points are easy to rotate and always the right connection

Features:

- Rotating 360°, pivoting 230°
- Universal, unmistakable VIP connection for chain, hook and eye
- Double ball bearing for turning/rotating operations
- completely pre-assembled with TECDOS connecting bolts and clamping sleeve



Designation	Chain	D [mm] corner dimension	E [mm] wrench width	F [mm]	M [mm]	Md [mm]	T [mm]	Weight [kg/Stk.]	Part no.
PP-VIP M16	TEC 6	46	41	25	16	17,5	50	0,42	7909768
PP-VIP M20	TEC 12	61	55	30	20	22	61	0,94	7909769
PP-VIP M24	TEC 25	78	70	36	24	26	77	1,82	7909770
PP-VIP M30	TEC 43	95	85	45	30	33	93	3,47	7909771
PP-VIP M36	TEC 65	100	90	54	36	39	102	4,69	7909772

Attention, this component has been modified for TECDOS applications. Standard components from the RUD VIP Family are not suitable for TECDOS drive chains.



2. RUD TECDOS® systems and products

2.11 RUD LIFT LIMITER

RUD TECDOS® lift limiter

The lift limiter prevents the chain from “passing through” i.e. it serves as a travel route limiter on the unloaded sides of the chain.

Features:

- Limits the lift of a TECDOS drive system and
- Prevents the chain from being pulled through by the PI/ GAMMA or chain guides units

chain	weight [kg]	Part no.
TEC 6	0,14	7906314
TEC 12	0,5	7907126
TEC 25	0,4	7906460
TEC 43	1,7	7906401
TEC 65	4,0	7906315
TEC 140	8,0	7906316
TEC 260	28,9	7912434



TECDOS® application

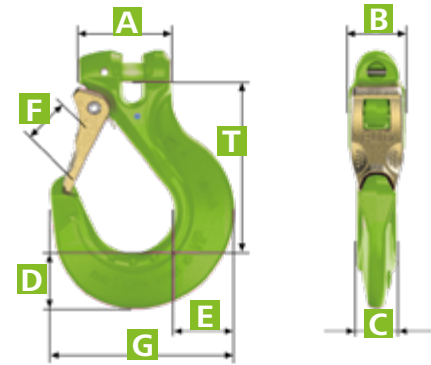
1. Pi-GAMMA pocket wheel block
2. PowerPoint fixing point
3. Chain guide redirection unguided
4. Round link chain medium/premium
5. End fixing

2.12 RUD COBRA FORK HEAD HOOK

RUD TECDOS® Cobra fork head hook

Features:

- Very robust design without a protruding hook tip
- The forged safety latch engages in the tip of the hook and is thus protected against lateral bending
- With a triple coiled corrosion protected double leg spring
- Thickened tip of the hook to prevent misuse
- Wear marks on both sides
- Gauge marks for measuring the width of the hook opening
- Completely pre-assembled with TECDOS connecting bolts & clamping sleeve



Designation	Chain	A [mm]	B [mm]	C [mm]	D [mm]	F [mm]	F _{max} [mm]	G [mm]	T [mm]	Weight [kg/Stk.]	Part no.
Haken VCGH 6	TEC 6	38	22	16	20	25	45	72	76	0,4	7909773
Haken VCGH 8	TEC 12	50	28	20	28	30	52	95	97	0,8	7909774
Haken VCGH 10	TEC 25	60	36	26	36	35	65	118	108	1,5	7909775
Haken VCGH 13	TEC 43	76	46	30	37	40	73	135	126	2,8	7909776
Haken VCGH 16	TEC 65	83	56	36	49	48	87	161	152	4,7	7909777
Haken VCGH 22	TEC 140	117	78	50	74	63	114	223	198	11,9	7909778

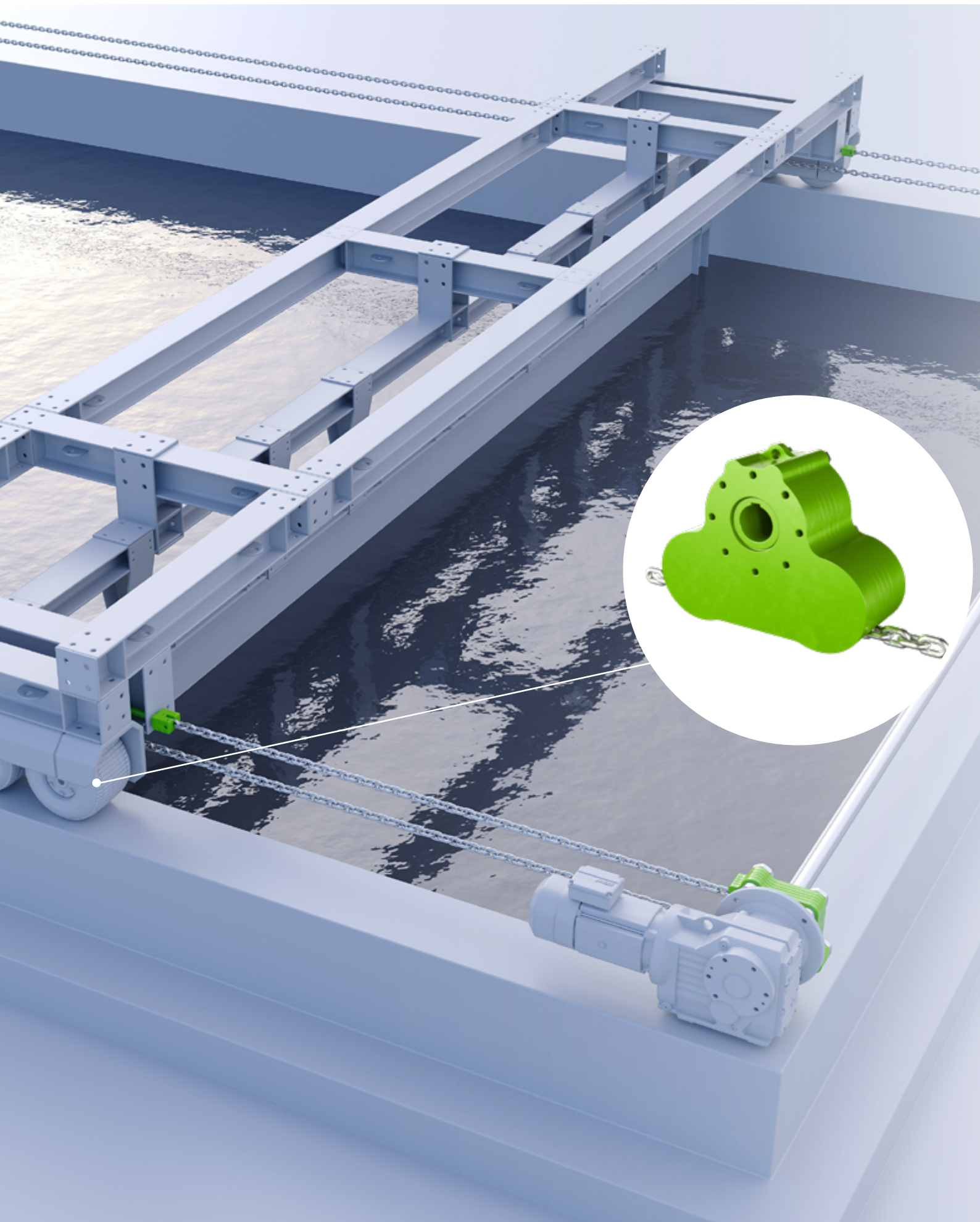
Attention, this component has been modified for TECDOS applications. Standard components from the RUD VIP Family are not suitable for TECDOS drive chains.



Discover now **RUD TECDOS chains drivers and components** on traceparts. RUD product-download simplifies design! [Click here](#) or search www.traceparts.com/en for **TECDOS**.



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A vertical decorative image on the left side of the page shows a close-up of a metal chain and pulley system, likely part of a lifting or transport mechanism, with a light blue and white color scheme.

3. DRIVE SOLUTIONS

MOVE ADJUST DRIVE

Innovative and high-performance drive systems for linear and rotating movements.

3. RUD TECDOS® DRIVE SOLUTIONS

3.1 lifting



Lifting equipment for final vehicle assembly

Variable height for ergonomic working

Vehicles attached to load frames must be traversed variably in height to enable ergonomic working during final assembly. The load frames must not hereby swing in the horizontal axis and only limited installation space is available for the drive unit.

RUD Solution

- TECDOS premium chain, tensioned all round as crisscross
- 4-fold pocketwheel-drive shaft
- pocketwheel deflection wheels
- Chain guide
- End fixing



Gangway

Robust, variable and compact

Gangways and ship access systems must be adjustable in longitudinal and transverse directions as well as for the height for different models and sizes of vessels so that safe access for passengers and crew is ensured.

RUD Solution

- TECDOS medium chain
- Pi-drive
- End fixing
- Lift limiter





Wagon unloading equipment

Rapid and safe material unloading

A shunting transshipment port for bulk goods requires a facility with which railway wagons could be unloaded rapidly and safely. Loads of up to 100 tons could not should be lifted and tipped in this case.

RUD Solution

- TECDOS medium chain
- Pocketwheels



Sectional door drive units

Moving doors with weights of several tonnes

Doors which weigh several tons e.g. in hangars or industrial halls must be reliably opened and closed, so neither people may be injured nor objects may be damaged. A combination of diverse technical drive components provides a trouble-free application.



→ Scan the QR code and watch the video!

RUD Solution

- TECDOS premium chain strands for lifting and lowering
- RUD lifting means and aids as linkage for counterweights
- TECDOS chain wheels: weather resistant, corrosion resistant and robust
- End user can combine roller chain with round link chain

3. RUD TECDOS® DRIVE SOLUTIONS

3.2 Process



Steel construction for hydraulic engineering Effective grille cleaning always pays for itself

The grille cleaning systems manufactured by the Austrian company BRAUN have been clearing grilles and disposing of the debris very effectively for many decades. Every job needs its own special approach to ensure maximum cost-effectiveness and customer satisfaction. Durability of construction and ease of maintenance are critical factors.

RUD Solution

- TECDOS round link chain
- OMEGA DRIVE
- End fixing



Moveable roof solutions For flexibility & freedom overhead

If you want maximum freedom, choose a sliding roof! Massively heavy roof coverings, which you can slide back when necessary, are just as commonly found in industrial production halls as in sports stadia, swimming pools, spa pools or event venues.

RUD Solution

- TECDOS round steel chain (premium)
- PI pocketwheel blocks



→ Scan the QR code and watch the video!



Skidding

Reliable solution for moving loads from one point to another

For bulk material handling on a dredger, a robust and easy-to-install solution was sought, which is particularly resistant to sand or gravel blocking.

RUD Solution

- OMEGA drive concept
- TECDOS premium chain
- End fixing



→ Scan the QR code and watch the video!



Spud Pole Skidding

Anchoring and positioning system for dredgers

Dredgers must be positioned safely and moved forward step by step in order to expand and dredge canals.

The 9 m long travel route is therefore executed at a speed of 5m/minute. The tensile forces on the chains normally amount to 90kN although they can increase up to 130kN.

RUD Solution

- TECDOS premium chain
- End fixing
- TECDOS OMEGA Drive



→ Scan the QR code and watch the video!

3. RUD TECDOS® DRIVE SOLUTIONS

3.3 Rotating



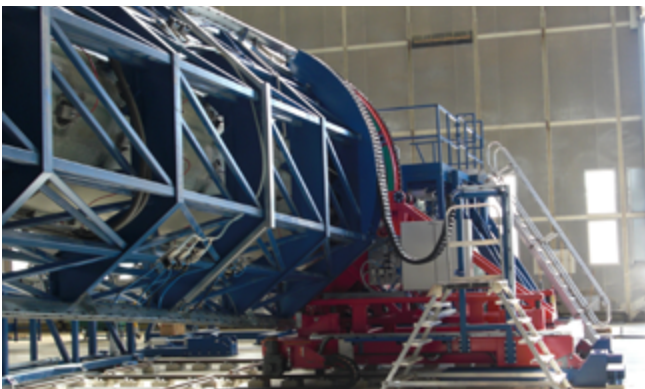
Blade Turning Device

Transporting bulky, sensitive rotor blades

Assembling and erecting turbines requires handling equipment with which the long rotor blades [up to 80 Mtrs] can be secured, aligned horizontally and rotated around the longitudinal axis.

RUD Solution

- TECDOS medium chain
- Pocketwheels



Rotating & Turning Equipment

Rotating rotor blades

Rotor blades for wind turbines are laminated in half-shells during manufacturing. To ensure that the multiple layers of glass-fibre or carbon-fibre-reinforced plastic can be inserted with millimetre precision and without wrinkles, the half-shells must be rotated around the longitudinal axis during moulding.

RUD Solution

- TECDOS premium chain
- Pocketwheel in OMEGA arrangement
- End fixing



Scan the QR code and watch the video!



Ship Loader

Flexible ship loading

Mobile ship loaders with mobile booms are utilised for loading of bulk goods on cargo ships. This equipment enable the cargo to be evenly distributed in the freight hold.

RUD Solution

- TECDOS premium chain
- Pocketwheel in OMEGA arrangement
- Chain guide
- End fixing



3.5 RUD TECDOS® IN USE

Robust drive technology in the wastewater treatment plant

Tecdos Pi-Gamma from RUD ensures trouble-free operation of a scraper bridge in the sewage treatment plant of the TBZ Flensburg.

The sewage treatment plant of the TBZ Flensburg is a special one: it is located in the city, near the stadium, directly on the shore with a view of the Flensburg Fjord. The central location brings with it two major challenges: limited space and a particularly sensitive approach to odor pollution.

Tecdos Pi-Gamma chain drive system

In the front section of the rectangular primary clarifier, coarse sludge removal takes place by means of a longitudinal blade scraper. In three of the basins, this still runs on wire ropes. In one, however, the Tecdos Pi-Gamma chain drive system from RUD has been in use since the beginning of 2022. The 2-in-1 complete system moves the 7 m wide scraper bridge back and forth over a length of around 20 m at a clearing speed of 1.8 m/min. "The new drive system has been running completely smoothly and trouble-free from day one," Andersen is pleased to report.

The 2-in-1 complete system Tecdos Pi-Gamma is suitable for horizontal and vertical applications with a fixed chain deflection of 180 degrees or a flexible deflection of 90 to 180 degrees. An SEW gearmotor, two TEC6 end attachments, two Pi-Gamma TEC6 wheel blocks, and a 39 m long TEC6 premium round steel chain each on the right and left side of the basin ensure a trouble-free drive of the scraper bridge. The round steel chain is the basis of the drive system and is designed for an operating load of 6 kN.

Robust chain

A particular challenge for the chain from RUD: The premium round steel chain runs approx. 80 cm above the water surface and is thus exposed to all the influences of the wastewater. "The composition of the wastewater cannot always be precisely determined and may contain aggressive media, such as cleaning agents from industry or even flammable agents," clarifies Andersen. The premium round steel chain from RUD is case-hardened and highly wear-resistant and durable, even with comparatively aggressive media.

Even snow and ice cannot harm the chain. Ice that has formed on the chain in winter due to condensed water vapor in the primary clarifier breaks up on the chain drive from RUD and falls off. "Our chain thus cleans itself. Wastewater treatment plant operators do not need to resort to radiant heaters at the clarifier or to de-icing agents. This not only protects the environment, but also the wallet," explains Steffen Rodewald, Area Sales Manager at RUD.



Chain elongation of 15 cm bridged.

The only sticking point for the chain is the temperature differences of up to 30 °C in winter and summer. In winter, the chain contracts; in summer, it elongates. Rupert Wesch, head of application technology at RUD, and his team have calculated a chain elongation of 15 cm, which is caused by temperature, the chain sag and the operating forces. The TBZ compensates for these differences with a specially designed spring tensioner, which was developed in-house in one of the workshops on the wastewater treatment plant site. "For the calculation of the linear expansion and the forces that the springs have to absorb, we were in close exchange with the specialists from RUD," Andersen emphasizes.

Further retrofitting of clarifiers

For the Flensburg TBZ, this was the first project in which RUD components were used. "We have a total of four primary clarifiers in our sewage treatment plant and all of them were equipped with new longitudinal blade clearers in 2004, which ran on wire ropes. On one basin, the new chain drive system from RUD has already proven itself. We will therefore also retrofit the other three existing basins as part of the annual overhaul. The conversion work for this has already been initiated," Andersen gives an outlook. In 2020, the German Association for Water, Wastewater and Waste (DWA) counted a total of more than 9,000 municipal wastewater treatment plants in Germany in its performance record of municipal wastewater treatment plants. According to Rupert Wesch, there is great potential for optimization here: "For use in rectangular clarifiers, our Tecdos solutions are always a good option. Compared to rope, rack and pinion, the drive with a round steel chain is the best alternative - not only technically, but also economically."

About the Flensburg TBZ wastewater treatment plant:

The Flensburg wastewater treatment plant at the Kielseng site was commissioned in 1962 and since then has been continuously technically expanded to meet environmental requirements. For example, it has a technically sophisticated nitrogen elimination system using trickling filters and sludge bed reactors with subsequent two-stage biological filtration. In the three digestion towers with a digestion volume of 9,600 m³, the TBZ sewage treatment plant produces around 2.6 million m³ of sewage gas per year. This in turn flows into a combined heat and power plant (CHP) with an electrical output of 750 kW. The Flensburg sewage treatment plant thus already achieves a self-sufficiency of 63% for electricity and 100% for thermal energy. In the coming years, the TBZ plans to massively expand photovoltaic systems on the sewage plant site, on the way to self-sufficiency.



Bild: PI-GAMMA



A vertical photograph on the left side of the page shows a construction site. In the foreground, a person is wearing a dark blue jacket and a bright yellow high-visibility safety vest. In the background, a tall red crane structure is visible against a clear blue sky.

4. Service

**COMPETENT
RELIABLE
REACHABLE**

Our expert knowledge enables us to reliably support you during and after the optimisation of your processes. In order to fulfil this demand, we can provide you with extensive offers and services.

4.1 RUD TECDOS® SERVICE

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

Das RUD Service Konzept



Measure, document, maintain

- Consultation and recommendation for spare parts
- Maintenance
- Replacement of competitors products with RUD products
- On-site consultation
- Measuring and testing
- On-site installation
- Fault elimination
- Inspection
- Retrofitting

Das RUD Engineering Konzept



Calculation, Construction & Consultation

- Product development and further development
- Dimensioning of the best components for your individual requirement
- Technical consultation, if needed on-site
- Synchronisation of all components to your individual requirements
- On request provision of CAD files
- Problem solving in case of difficult cases of operation

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■ Mail: salesfa@rud.com

Start benefiting from our Remote Service. This service, which requires no human contact, enables us to provide remote support and identify faults. With it, we can implement and support measures to resolve faults and errors instantly. We can also help you install our components and ensure that your systems work properly from the start.



Increase productivity

The real-time fault analysis functions enable problems to be resolved more quickly. Your machine downtimes are reduced and productivity increases, boosting your ROI.

Reduce your costs

The remote support provided by our experts can now reduce inspections and maintenance or repair work, without any need for time-consuming, expensive visits to site.

Available anywhere

No matter whether you are outdoors or in your office or workshop, our experts can provide you with sound advice anywhere that has a basic Internet connection.

Contact-free live contact

You can now benefit from the audio-visual support provided by our experts, and increase the efficiency of your daily operations.

Our services in detail:

- Analysis and evaluation of the error and fault data and descriptions sent to us
- Error and fault identification and diagnosis
- Support during commissioning, repairs and fault/error resolution
- Support while operational systems are running
- Staff training
- Provision of relevant operating manuals

4.2 IN THE WORLD AT HOME

RUD LOCATIONS



Users around the globe appreciate our innovative strength and our intelligent RUD TECDOS drive solutions for lifting, moving, slewing, telescoping and turning loads. In order to be as close as possible to our customers, we are constantly expanding our worldwide sales network. With a large number of RUD subsidiaries, associated companies and specialist trade partners, we ensure that our consulting partners expertise and products network are available worldwide.

4.3 Technical questionnaire

FOR TECDOS® DRIVE SYSTEMS

Please copy and send to:

tecdos@rud.com

RUD Ketten
Rieger & Dietz GmbH & Co. KG
Tel.: +49 (0) 7361 504-1457
tecdos@rud.com
www.rud.com

CONTACT DATA

Firm:*	Responsible:*
Street:*	E-Mail:
ZIP / City:*	Tel.:
Date:	Preferred delivery date:

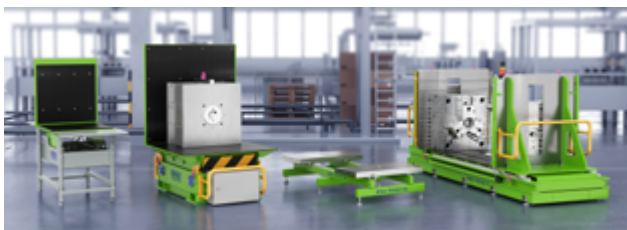
PROJECT

Task:	<input type="checkbox"/> lifting	<input type="checkbox"/> pulling	<input type="checkbox"/> other:
Please also send a separate sheet for sketches			
Maximum tensile strength on the chain [kN]:	weight [kg]:	Friction factor [μ]:	
Roller friction 0 wheel / material parameter		Sliding friction: Friction factor*	
Max. speedup [m/s²] / max. detension [m/s²]:			
Speed[m/min] from:	to:		
Cycle operation??	<input type="checkbox"/> yes	<input type="checkbox"/> no	cycles per:
Duty and passive state per cycle::			
Total operating time daily [h]:	annually [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:

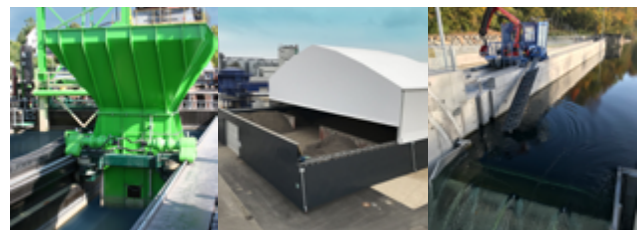
Environmental influences:	<input type="checkbox"/> corrosive	<input type="checkbox"/> abrasively	<input type="checkbox"/> temperature	<input type="checkbox"/> others
Remarks:				
Drive system:	<input type="checkbox"/> Direct drive	<input type="checkbox"/> Gearmotor	<input type="checkbox"/> Pneumatic motor	<input type="checkbox"/> Hydraulic motor <input type="checkbox"/> Electric motor
Current situation:	Rotational speede:	Performance:	Type:	Protection cover IP:
Desired situations:				

RUD Conveyor & Drives



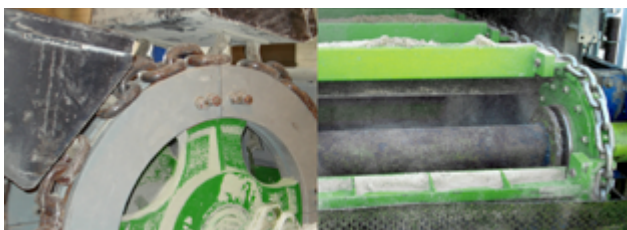
RUD TECDOS mechanical engineering

Cool moves for heavy tools and bulky items: With the **RUD TECDOS TM TOOL MOVER**, the **RUD TECDOS TMB** workbench with turnover device and the **RUD TECDOS TS TOOL SEPARATOR**, handling tools has never been so safe, efficient and effective in terms of costs or processing.



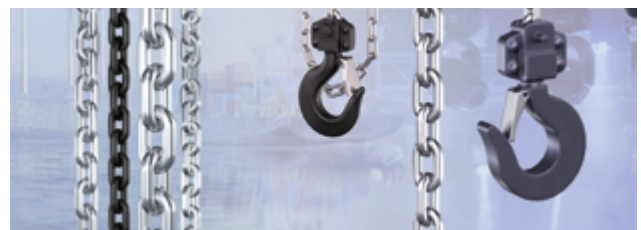
RUD TECDOS drive technology

The RUD TECDOS team develops and produces drive solutions for rotating, lifting, moving, telescoping or pushing. In addition to the components range, TECDOS OMEGA and PI-GAMMA drives are also available as complete system drives.



RUD conveyor technology

Combinable components & individual parts for conveyor technology, conveyor systems and mining. RUD offers you perfectly coordinated systems and components for horizontal, vertical and ascending conveyors.



RUD industrial chains

RUD components are the first choice worldwide for leading hoisting equipment manufacturers. We also offer a wide range of round link chains for different industries and areas, such as food, fishing and awnings.