



GÜTHLE
IDEAS UND SYSTEMS

QUICK DIE CHANGE TRANSPORT TECHNOLOGY

DILOS TRUCK • BUGGY • TROLLEY
DILOS STORAGE TECHNOLOGY



ROBUST DIE TRANSPORTERS

FOR EFFICIENT DIE HANDLING

The DILOS Idea

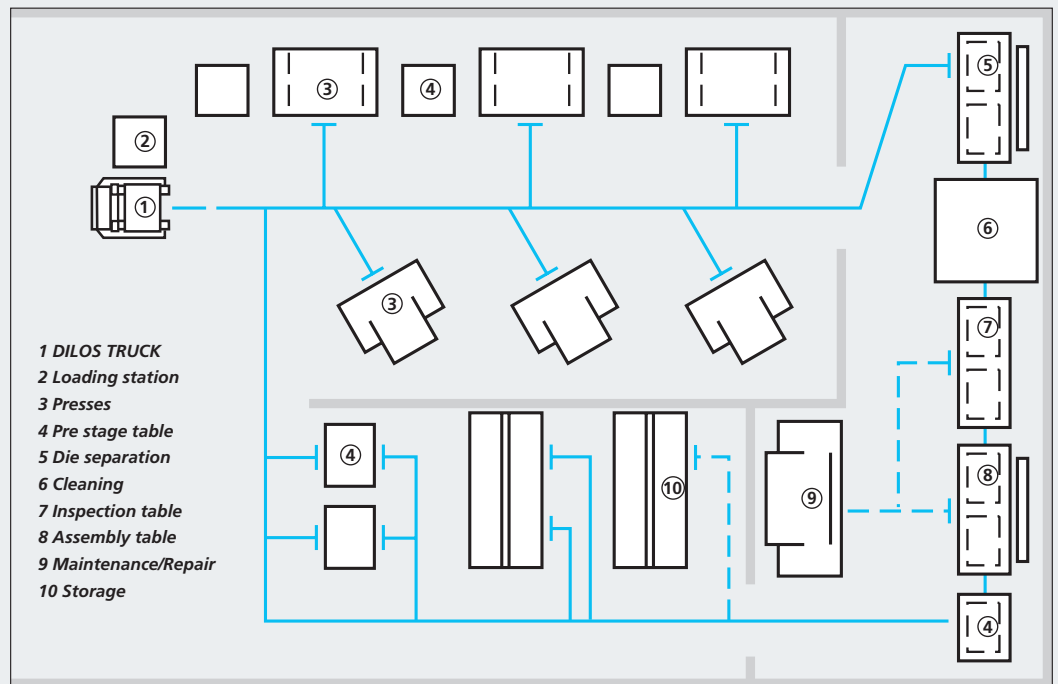
The trademark DILOS stands for DIE LOGISTICS SYSTEM.

This logistics system for dies, devised by GÜTHLE, embraces the handling, clamping, maintenance and storage of dies.

Networked Efficiency

The networking of all presses, set-up tables, changing tables and die servicing stations by means of flexible die transporters offers great potential for rationalisation.

DILOS TRUCK and DILOS BUGGY are the core products in this innovative workflow concept.

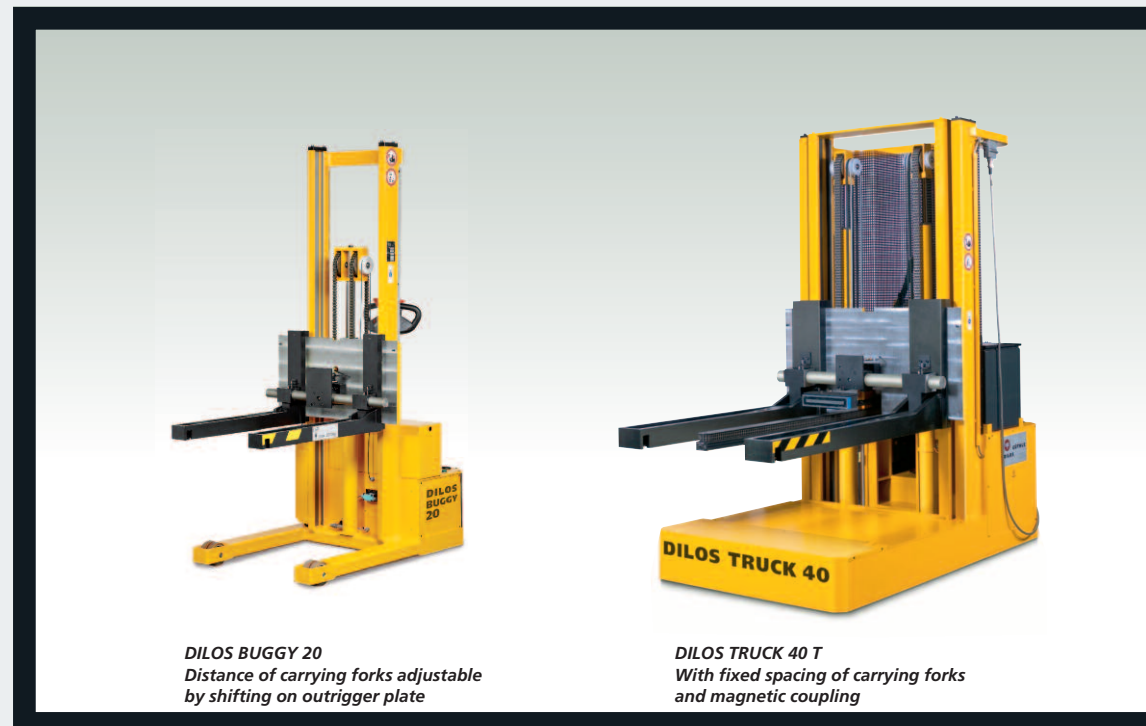


DILOS set-up table for sub-plate technology

Quick die changing and safe transport

DILOS TRUCK and DILOS BUGGY have been developed specially for the needs and high demands of pressworking shops.

Emphasis has been placed on safety functions, in addition to speed of function and ergonomic operation



DILOS BUGGY 20
Distance of carrying forks adjustable by shifting on outrigger plate

DILOS TRUCK 40 T
With fixed spacing of carrying forks and magnetic coupling



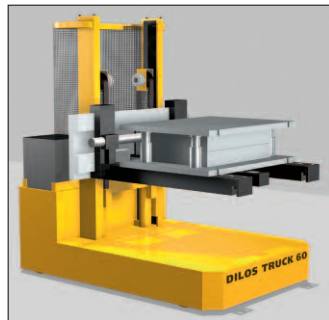
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VERSATILE AND FAST THROUGH FRONT LOADING TECHNOLOGY

Robust vehicle technology

The heavy weight of the dies places extraordinary demands on the design of the DILOS TRUCK and DILOS BUGGY. The dimensioning of the components and their construction is accordingly robust.



Front loading technology

The front loading technology with the adjustable fork height permits safe changing of the dies at different presses with different heights of press bed.

It can also be used to store dies in appropriate racks.

Modular type structure for adaptation to individual needs

DILOS TRUCK and DILOS BUGGY are based on a basic, modular design. The DILOS construction kit with its series-proven components offers many functions

that can be combined as needed. There are proven modules available for practically all requirements and functions.



E. g. Special-length carrying fork



Accessories: Integrated board with transport balls for changing small modular dies

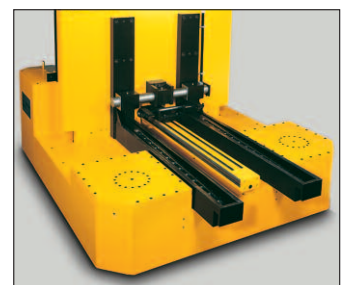


DILOS TRUCK 60 with adjustable fork distance

DILOS TRUCK 100 T with telescopic mast and motorised fork distance adjustment



DILOS TRUCK 40 with special open chassis for lowering a special carrying fork to floor level



DILOS TRUCK 60 with special chassis for lower-slung carrying forks

THE UNIVERSAL CARRYING FORK FOR SAFE ...

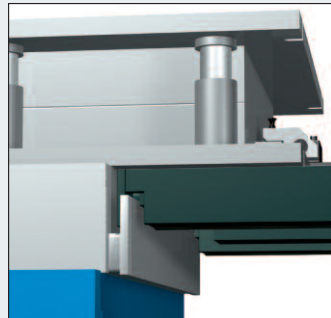
Docking of the carrying fork at the press bed

For safety reasons, a firm connection between the DILOS TRUCK or BUGGY and the press bed is essential.

This is also true when transferring dies to storage racks or to servicing or pre stage tables. All these 'docking stations' are therefore fitted with a coupling bar.

The carrying fork has an integrated fixing coupling, which engages when the fork is lowered onto the coupling bar.

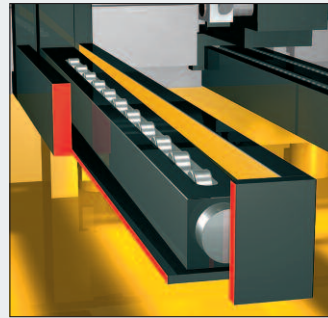
A tilt sensor (optional) stops the lowering movement as soon as the roller conveyors on the fork have reached their horizontal transfer position. Once docked, the DILOS TRUCK can be traversed (in slow, guided movement) for fine positioning.



A reliable connection: The coupling that fixes the carrying fork to the press bed

Carrying fork with roller conveyors

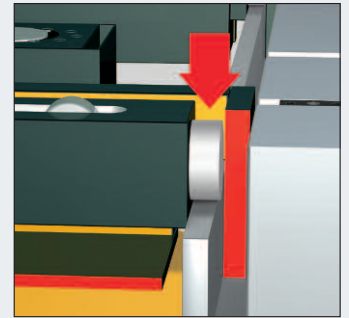
These roller conveyors are needed to save energy when moving the dies. They are adjustable in height. During transport, they are retracted, and the die rests directly on the carrying fork, so it does not slip.



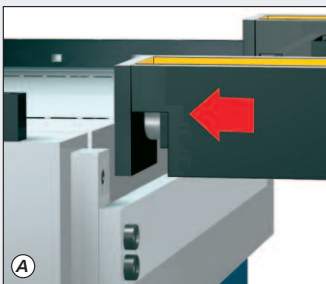
The roller conveyors in the carrying fork are retracted during transport

Automatic release

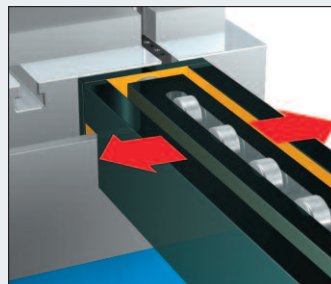
The roller conveyors are raised automatically when the carrying fork is lowered onto the coupling bar. The die then rests on the roller conveyor rather than on the fork, and is free to move.



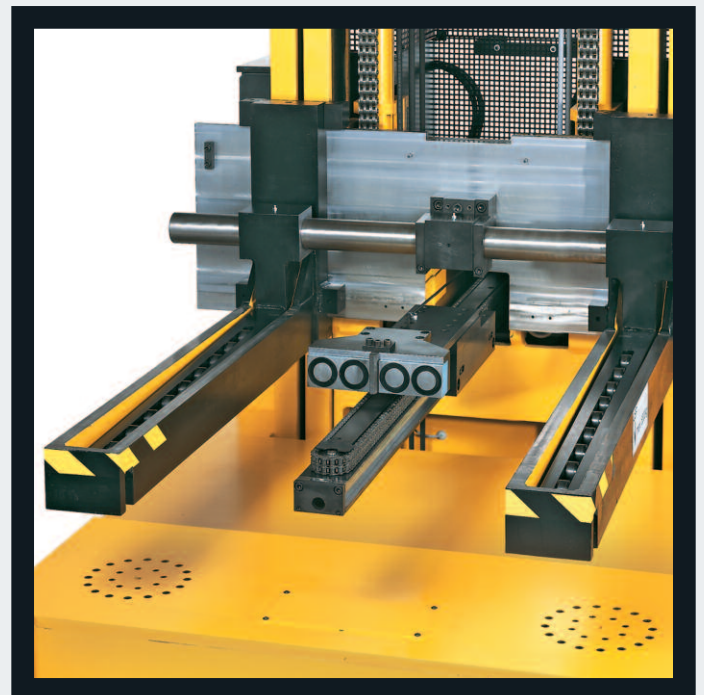
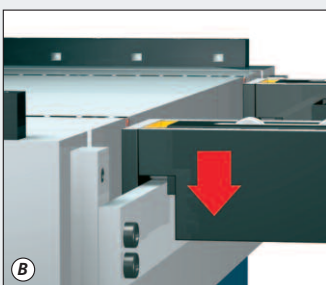
When the carrying fork is lowered, the supporting roller at the front of the roller fork rests on the coupling bar



*A Slow travel towards the press bed.
B Lowering the carrying fork onto the coupling bar docks the DILOS TRUCK/BUGGY safely at the press bed*



Versions of the DILOS TRUCK with all-wheel steering can take up the precise hand-over position by traversing slowly



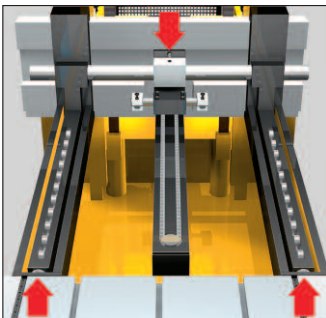
View of the strong construction of the carrying fork with retracted roller conveyors (transport position)



AND QUICK DIE CHANGE

3-point roller conveyor suspension

To compensate for any unevenness of the floor, the roller-conveyor fork is suspended floating on the hoist column. Combined with the support of the fork on the coupling bar of the press bed, this results in a flexible, self-adjusting 3-point suspension.



Floating compensation of the roller-conveyor fork

Motor-driven die movement

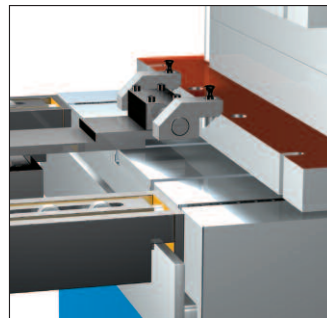
From an ergonomic point of view, it is reasonable to move dies weighing 2 t or more by means of a motor.

The release of this function is dependent on the docking at the coupling bar and on the activation of the roller conveyors in the carrying fork.

All versions of the DILOS TRUCK are fitted with a motorised displacement unit with an integrated die coupling. This can also be fitted to the DILOS BUGGY.

Overlap with the press bed

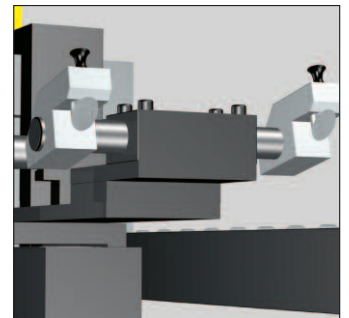
With the overlap function, the displacement unit can reach far enough over the press bed to reach the coupling on the die. The length of the overlap can be adapted individually (standard 300 mm).



The overlap allows the die coupling to engage the die directly

A selection of die couplings

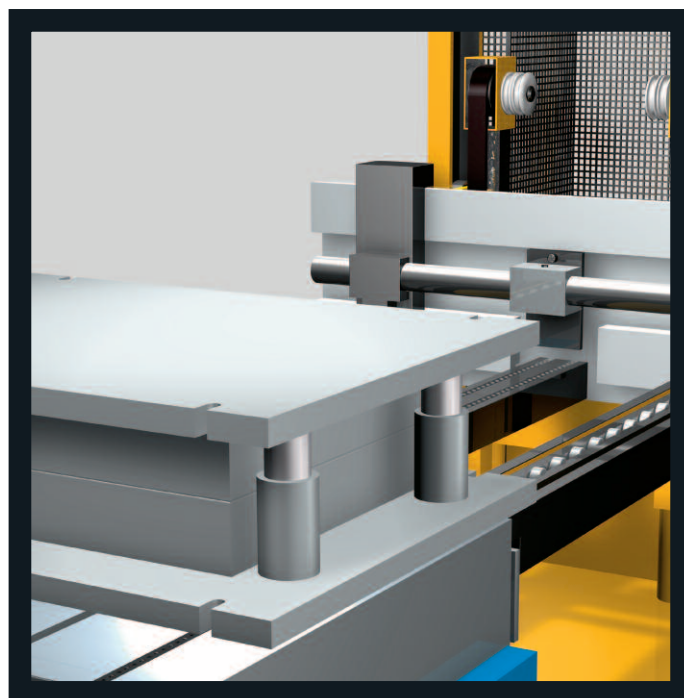
There are differently designed coupling technologies and models of coupling to choose from for the displacement unit and for the dies.



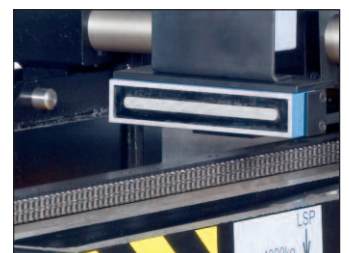
Hook coupling for manual operation. The die only needs holes drilled in it

Automatically secured

The mechanically controlled automatic mechanism offers maximum functional reliability. This is also true of uncoupling. When the carrying fork is raised, the roller conveyors drop below the level of the carrying forks. This automatically fixes the die, and secures it for transport.



Automatic coupling with coupling hook on the die



Quick magnetic coupling. Die change without manual intervention

INNOVATIVE CHASSIS TECHNOLOGY.

MANOEUVRING IN A MINIMUM OF SPACE

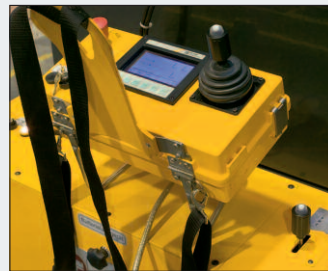
Chassis and steering of the DILOS TRUCK

The body of the DILOS TRUCK is constructed as a three-wheeled sub-frame.

All versions of the DILOS TRUCK are fitted with electronic all-wheel steering. The program-controlled swivelling of all three wheels permits various movements, even turning on the spot.

This mobility allows the DILOS die-changing transporter to be used when space in front of the presses is cramped, and in narrow aisles in the store.

The ability to turn on the spot is an innovation.

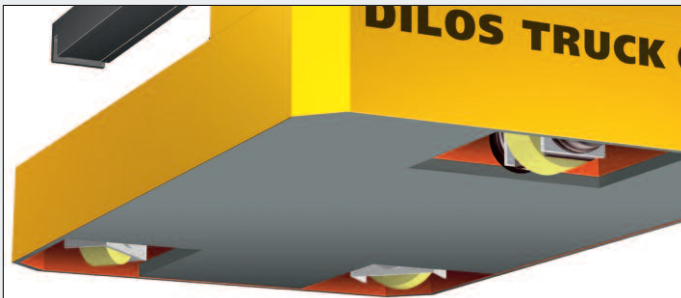


Portable operating panel for optimum convenience of operation. Centralised control of all functions when travelling and when changing dies.

Joystick control

The DILOS TRUCK is equipped with a portable operating panel for steering the vehicle and for controlling the die-changing functions.

A joystick allows delicate control of all movements. The monitor indicates the attitude of the wheels, which is important because the wheels are out of sight.



Fully enclosed chassis of the DILOS TRUCK. For safety reasons, the wheels are recessed deeply into the chassis. Versions 60 and 100 of the DILOS

TRUCK are driven by the two front wheels. The illustration shows the wheels positioned for turning on the spot.



Control handle with speed control for simple operation. Standard on the DILOS BUGGY.

Radio control

As an alternative to the cable connection, the operating panel can be used with a wireless connection. In this case, all the functions are still available, with the exception of image transmission from an optional sighting camera.



All-wheel steering in 'normal operation'. For this kind of straight-ahead driving, only the rear wheel is steered



Without additional manoeuvring, you can alternate between forward and lateral travel. The DILOS all-wheel steering allows careful yet swift manoeuvring with heavy dies



In circular position, the DILOS TRUCK with its all-wheel steering can turn on the spot



Simple drawbar operation

The standard version of the DILOS BUGGY is supplied with an easy-to-operate multifunction control handle.



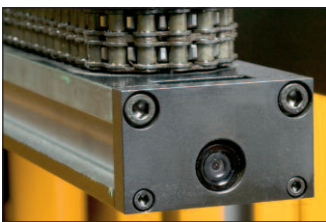
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... FOR SPOT-ON POSITIONING

Approaching the hand-over position

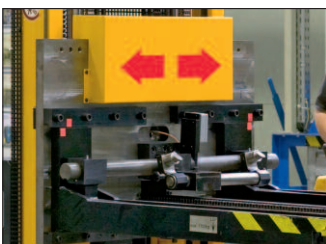
A quick approach to the hand-over position can be achieved in different ways. The optional sighting camera is particularly useful, and makes sense for applications in high-rise shelves.



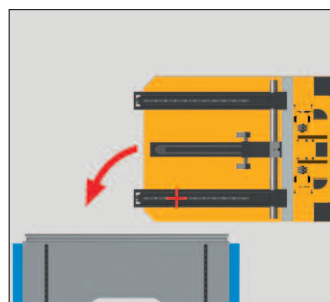
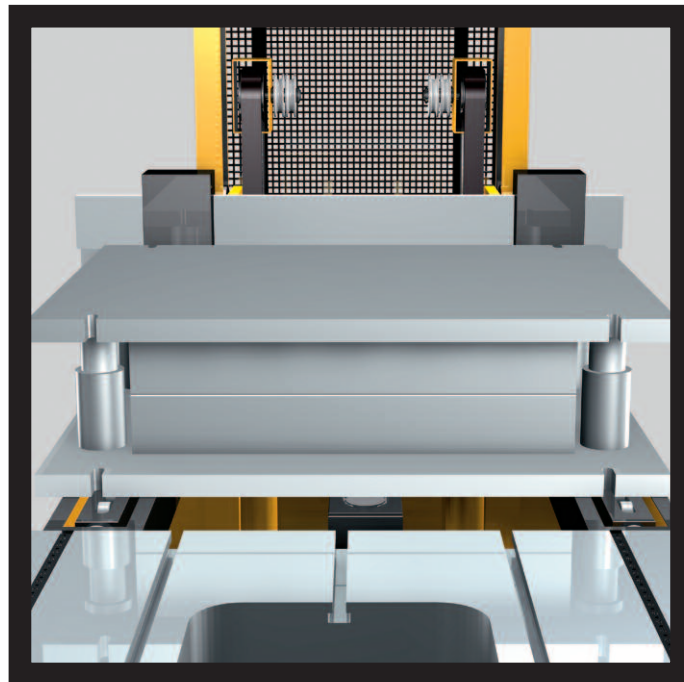
Shock-proof mounting of the sighting camera (top) and surveillance monitor (optional)

Hand-over positioning of DILOS BUGGY

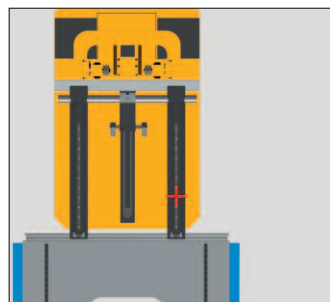
The standard chassis allows the hand-over position to be approached from the front. As an alternative, a hydraulically operated traverse fork sled offers highest precision of positioning.



Optional on the DILOS BUGGY: Hydraulic traverse of the fork sled

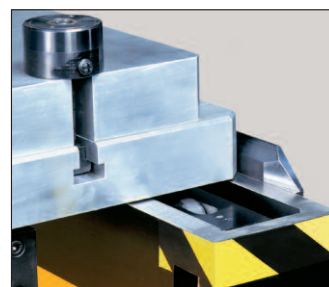


Approaching the hand-over position with the DILOS BUGGY by turning around one of the front wheels



Lateral guides for sub-plates

When the DILOS TRUCK or DILOS BUGGY are used for changing dies with sub-plates, or with dies of the same format, lateral guides on the carrying fork allow precisely positioned hand-over.



The lateral guides are used when changing dies with the same format, or when working with sub-plates.



With the joystick, the operator can control all functions delicately. The display shows the attitude of the wheels, among other information.



*DILOS BUGGY 20
Standard version in travelling position with carrying fork lowered*



DILOS BUGGY 25 SPECIAL with operating panel and traversing fork sled

LIFTING HEAVY LOADS FOR SAFE TRANSPORT ...

Strong lifting mast construction

Body and lifting mast form a highly stable structural unit. The solid fork sled on the lifting mast is driven by heavy duty hydraulic cylinders.

For applications involving high storage racks, all versions can be fitted with a telescopic mast. Depending on the nature of the floor, it may be advisable to assign lighter loads to the upper sections. Individually clarified notices to this effect are affixed to the mast where the operator can see them clearly.



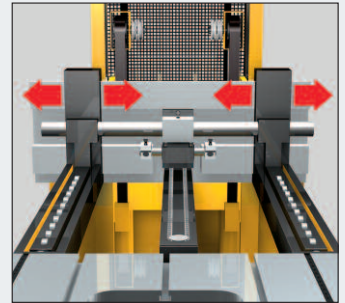
*DILOS TRUCK 100 T
with telescopic mast,
for use with high, space-saving
storage racks*

Adjustable die-carrying fork

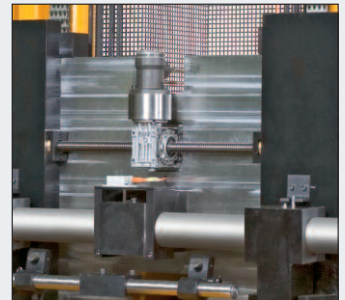
In view of the heavy loads, the carrying fork is a solid, welded structure. Attached to the fork sled, the width of the carrying fork can be adjusted to fit the size of the die (standard).

Carrying-fork options:
Fixed-width fork for use with dies of the same format, or with sub-plates.

Hydraulically adjustable-distance of fork for frequent changing.



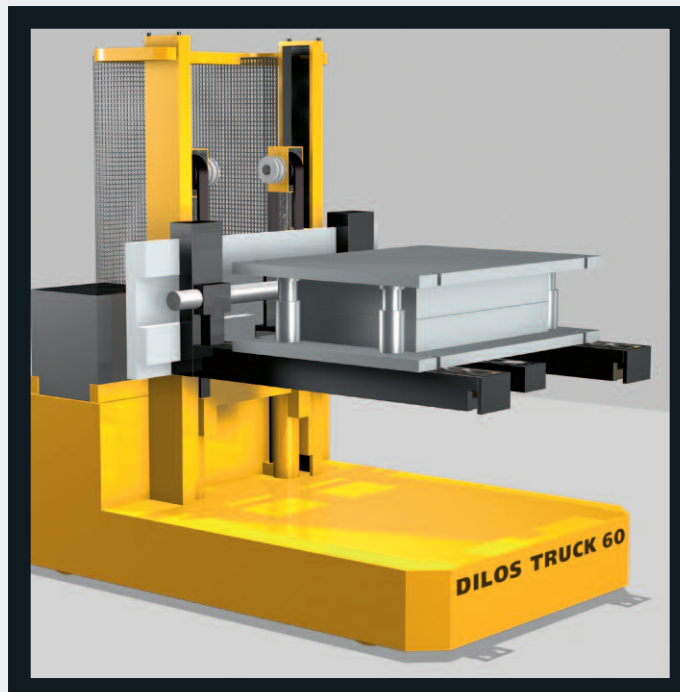
*Manually adjustable distance
of die-carrying fork*



*Hydraulic adjustment of the
fork distance*



*DILOS TRUCK 40
with standard mast*



*Hydraulically driven horizontal traverse
of the entire carrying fork*



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RELIABLE DRIVE TECHNOLOGY FOR 24-HOUR OPERATION

Battery operation – even round the clock

The power supply for the electric drive motor and the electrically operated servo-hydraulic pumps is provided by a 48 V battery set (BUGGY 24 V).

An internal charger is part of the standard equipment. The parking station requires merely an electrical connection for the charging cable. An external battery charger can be used as an alternative.

For continuous readiness in shift operation, it is advisable to swap the batteries.

The DILOS battery-changing trolley has been developed for just such applications. It has its own charger.



Plug connectors for quick attachment and disconnection of the batteries

High torque drive

The DILOS BUGGY and the DILOS TRUCK 40 are driven via the rear wheel by 24-Volt electric motors providing strong travelling power.

The 'heavy' series, DILOS TRUCK 60 and 100, have front-wheel drives with compact, powerful hydraulic motors. These are supplied by electrically driven hydraulic pumps (48 Volts).



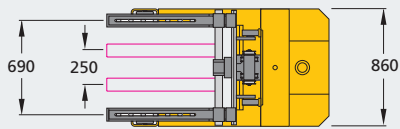
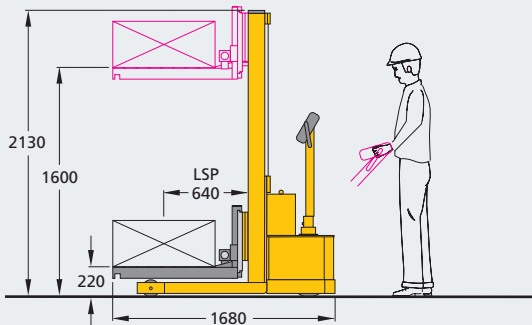
For safety reasons, the loaded fork is lowered to chassis level for travel. Control turns automatically to slow speed when fork is raised.

DILOS battery-changing trolley with charger for shift operation

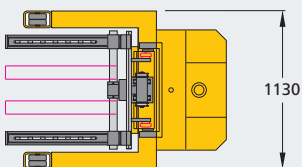
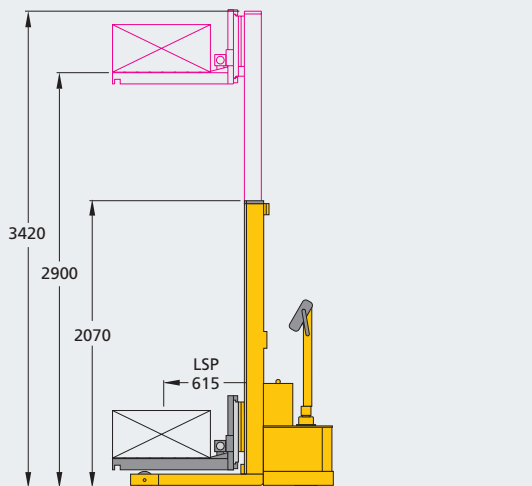
DILOS TRUCK 40 T with rear-wheel drive



DILOS BUGGY 20



DILOS BUGGY 20
Standard



DILOS BUGGY 20 T
With telescopic mast



TYPE	DILOS BUGGY 20	DILOS BUGGY 20 T
Die dimensions		
Width min.	350 mm	350 mm
Depth min.	350 mm	350 mm
Depth max.	800 mm	750 mm
Lifting Device		
Load	20 kN	20 kN
Standard stroke	220 to 1600 mm	220 to 2900 mm
Centre of load (LSP)	640 mm	615 mm
Levelling equipment	Optional	Optional
Fork section W x H	95 x 85 mm	95 x 85 mm
Chassis/Steering		
3-wheel chassis	yes	yes
Sideways travel	no	no
Steering	Drawbar	Drawbar
Tyres	Vulkollan	Vulkollan
Travel		
Drive	Electric	Electric
Battery	2 x 12V GIS 100Ah	2 x 12V GIS 100Ah
Speed max.	Infinitely variable to 2.8 kph	Infinitely variable to 2.8 kph
Die displacement		
Drive	Manual	Manual
Function release	Docking	Docking
Overlap	-	-
Dimensions and space requirement		
Width	860 mm	1130 mm
Length max.*	1680 mm	1630 mm
Height of mast, retracted	2130 mm	2070 mm
Height of mast, extended	-	3420 mm
Weight		
Unloaded, with battery	860 kg	1000 kg

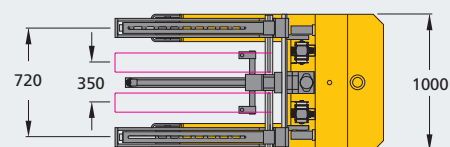
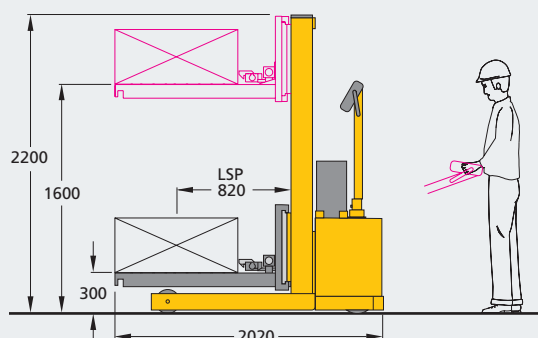
*Length depends on depth of die



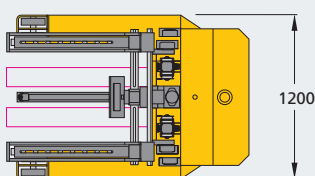
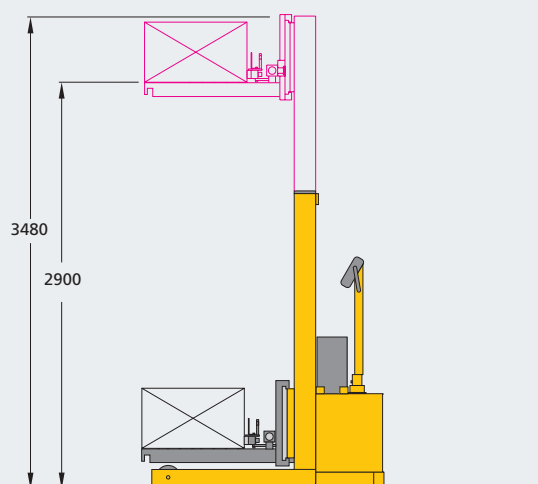
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DILOS BUGGY 30



*DILOS BUGGY 30
Standard*

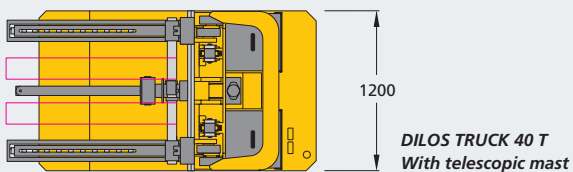
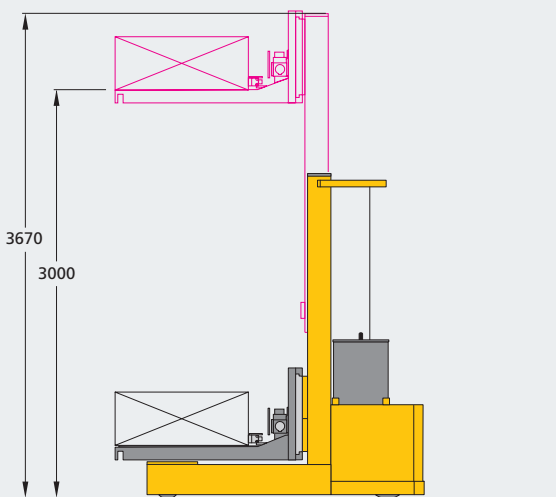
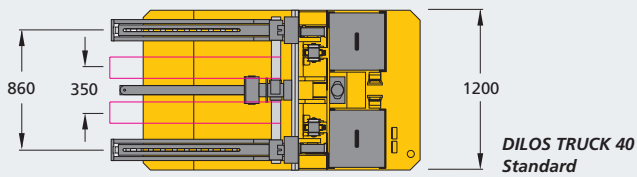
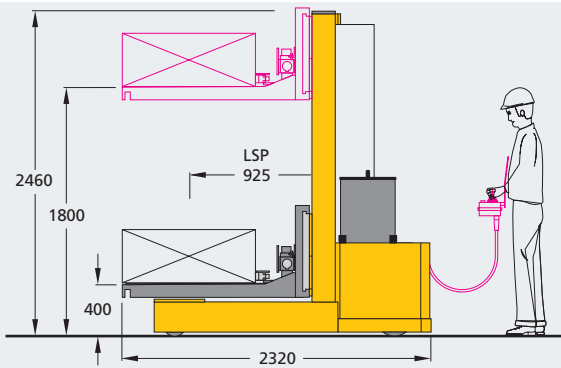


*DILOS BUGGY 30 T
With telescopic mast*

TYPE	DILOS BUGGY 30	DILOS BUGGY 30 T
Die dimensions		
Width min.	450 mm	450 mm
Depth min.	350 mm	350 mm
Depth max.	900 mm	800 mm
Lifting Device		
Load	30 kN	30 kN
Standard stroke	300 to 1600 mm	300 to 2900 mm
Centre of load (LSP)	820 mm	820 mm
Levelling equipment	Optional	Optional
Fork section W x H	140 x 105 mm	140 x 105 mm
Chassis/Steering		
3-wheel chassis	yes	yes
Sideways travel	no	no
Steering	Drawbar	Drawbar
Tyres	Vulkollan	Vulkollan
Travel		
Drive	Electric	Electric
Battery	EPZS 24V 180Ah	EPZS 24V 180Ah
Speed max.	Infinitely variable to 2.2 kph	Infinitely variable to 2.2 kph
Die displacement		
Drive	Hydraulic motor	Hydraulic motor
Function release	Docking	Docking
Overlap	200 mm	200 mm
Dimensions and space requirement		
Width	1000 mm	1200 mm
Length max.*	2020 mm	1920 mm
Height of mast, retracted	2200 mm	2200 mm
Height of mast, extended	–	3480 mm
Weight		
Unloaded, with battery	1700 kg	2000 kg

*Length depends on depth of die

DILOS TRUCK 40



TYPE	DILOS TRUCK 40	DILOS TRUCK 40 T
Die dimensions		
Width min.	450 mm	450 mm
Depth min.	450 mm	450 mm
Depth max.	1000 mm	1000 mm
Lifting Device		
Load	40 kN	40 kN
Standard stroke	400 to 1800 mm	400 to 3000 mm
Centre of load (LSP)	925 mm	925 mm
Levelling equipment	Optional	Optional
Fork section W x H	160 x 110 mm	160 x 110 mm
Chassis/Steering		
3-wheel chassis	yes	yes
Sideways travel	yes	yes
Steering	Operating panel	Operating panel
Tyres	Vulkollan	Vulkollan
Travel		
Drive	Electric	Electric
Battery	2x 3PZS 24V 240Ah	2x 3PZS 24V 240Ah
Speed max.	Infinitely variable to 1.8 kph	Infinitely variable to 1.8 kph
Die displacement		
Drive	Hydraulic motor	Hydraulic motor
Function release	Docking	Docking
Overlap	300 mm	300 mm
Dimensions and space requirement		
Width	1200 mm	1200 mm
Length max.*	2320 mm	2320 mm
Height of mast, retracted	2460 mm	2460 mm
Height of mast, extended	-	3670 mm
Weight		
Unloaded, with battery	2900 kg	3300 kg

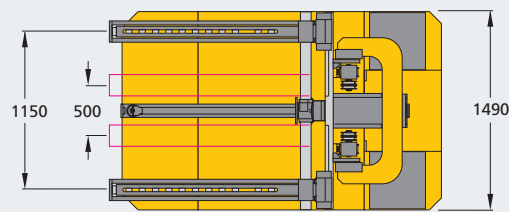
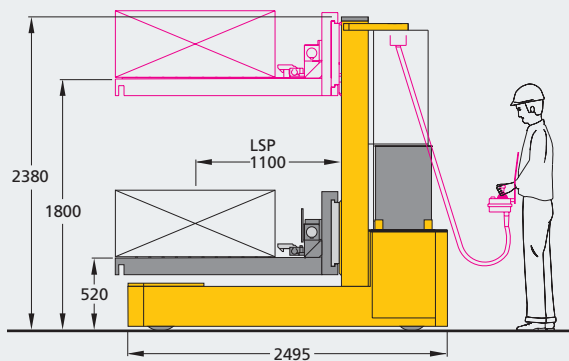
*Length depends on depth of die



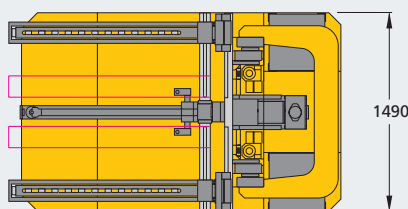
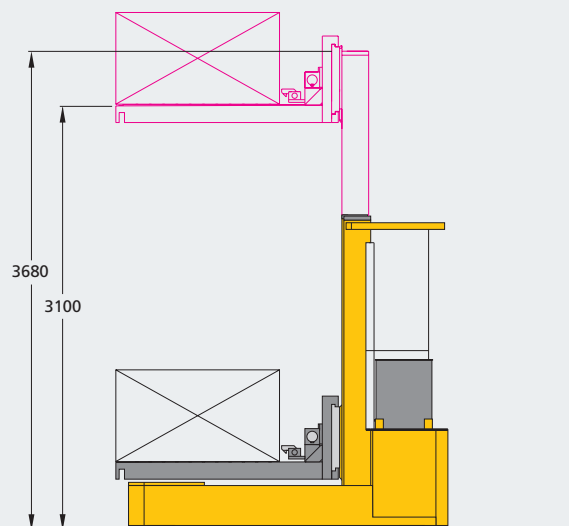
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DILOS TRUCK 60



*DILOS TRUCK 60
Standard*

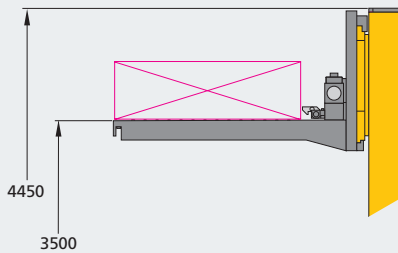


*DILOS TRUCK 60 T
With telescopic
mast*

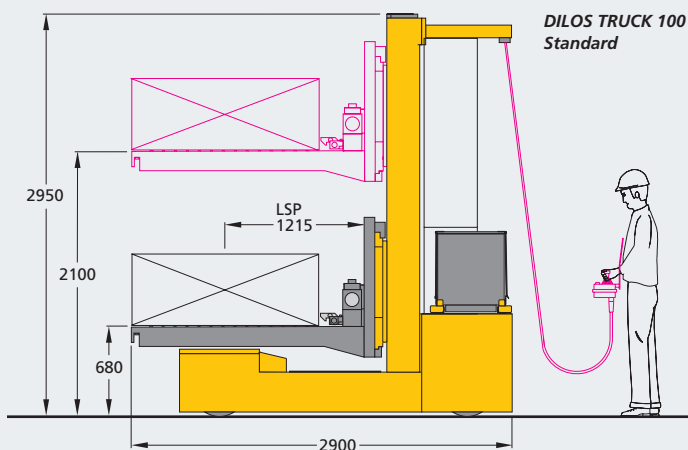
TYPE	DILOS TRUCK 60	DILOS TRUCK 60 T
Die dimensions		
Width min.	680 mm	680 mm
Depth min.	450 mm	450 mm
Depth max.	1200 mm	1200 mm
Lifting Device		
Load	63 kN	63 kN
Standard stroke	520 to 1800 mm	520 to 3100 mm
Centre of load (LSP)	1100 mm	1100 mm
Levelling equipment	Optional	Optional
Fork section W x H	160 x 130 mm	160 x 130 mm
Chassis/Steering		
3-wheel chassis	yes	yes
Sideways travel	yes	yes
Steering	Operating panel	Operating panel
Tyres	Vulkollan	Vulkollan
Travel		
Drive	Hydraulic	Hydraulic
Battery	2 x 3EPZS 24V 375Ah	2 x 3EPZS 24V 375Ah
Speed max.	Infinitely variable to 1.8 kph	Infinitely variable to 1.8 kph
Die displacement		
Drive	Hydraulic motor	Hydraulic motor
Function release	Docking	Docking
Overlap	300 mm	300 mm
Dimensions and space requirement		
Width	1490 mm	1490 mm
Length max.*	2495 mm	2495 mm
Height of mast, retracted	2380 mm	2380 mm
Height of mast, extended	–	3680 mm
Weight		
Unloaded, with battery	4800 kg	5200 kg

*Length depends on depth of die

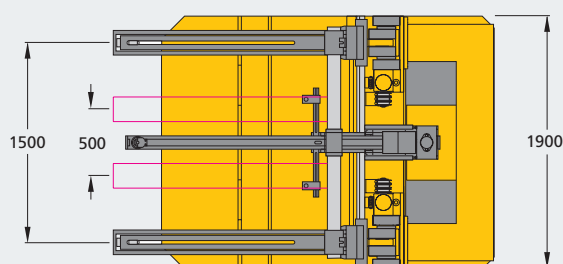
DILOS TRUCK 100



DILOS TRUCK 100 T
Telescopic mast



DILOS TRUCK 100
Standard



TYPE	DILOS TRUCK 100	DILOS TRUCK 100 T
Die dimensions		
Width min.	600 mm	600 mm
Depth min.	500 mm	500 mm
Depth max.	1400 mm	1400 mm
Lifting Device		
Load	100 kN	100 kN
Standard stroke	680 to 2100 mm	680 to 3500 mm
Centre of load (LSP)	1215 mm	1215 mm
Levelling equipment	Optional	Optional
Fork section W x H	185 x 150 mm	185 x 150 mm
Chassis/Steering		
3-wheel chassis	yes	yes
Sideways travel	yes	yes
Steering	Operating panel	Operating panel
Tyres	Vulkollan	Vulkollan
Travel		
Drive	Hydraulic	Hydraulic
Battery	2 x 6PZS 24V 540Ah	2 x 6PZS 24V 540Ah
Speed max.	Infinitely variable to 1.8 kph	Infinitely variable to 1.8 kph
Die displacement		
Drive	Hydraulic motor	Hydraulic motor
Function release	Docking	Docking
Overlap	300 mm	300 mm
Dimensions and space requirement		
Width	1900 mm	1900 mm
Length max.*	2900 mm	2900 mm
Height of mast, retracted	2950 mm	2950 mm
Height of mast, extended	-	4450 mm
Weight		
Unloaded, with battery	8100 kg	9000 kg

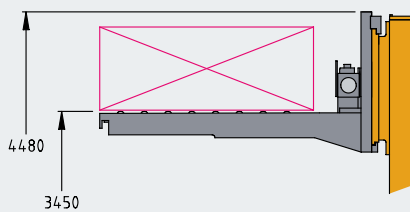
*Length depends on depth of die



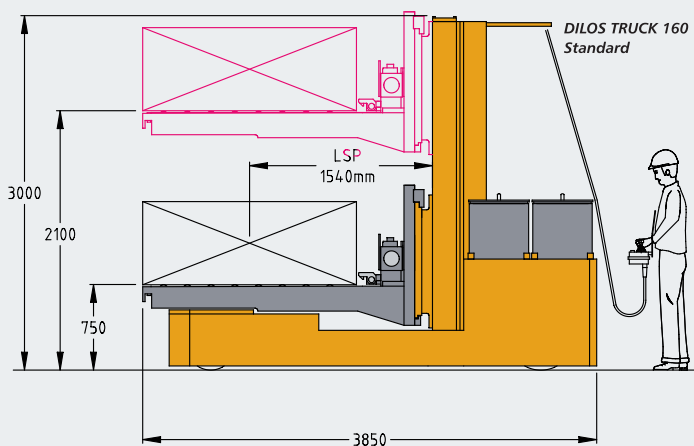
GÜTHLE

DILOS

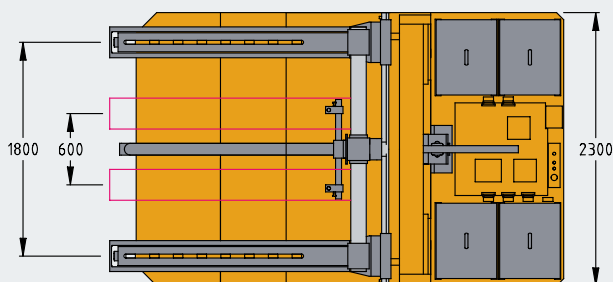
DILOS TRUCK 160



DILOS TRUCK 160 T
Teleskop mast



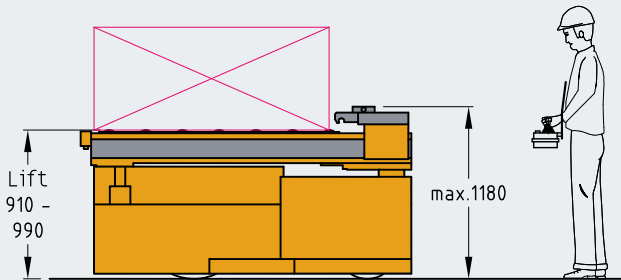
DILOS TRUCK 160
Standard



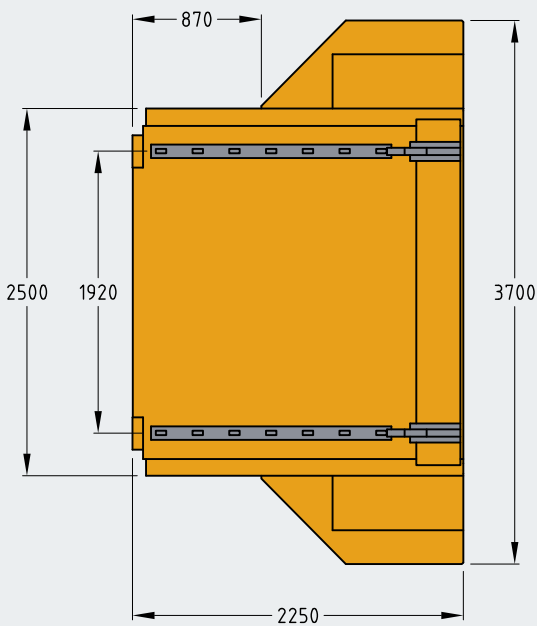
TYPE	DILOS TRUCK 160	DILOS TRUCK 160 T
Die dimensions		
Width min.	900 mm	900 mm
Depth min.	600 mm	600 mm
Depth max.	1800 mm	1800 mm
Lifting Device		
Load	160 kN	160 kN
Standard stroke	750 to 2100 mm	750 to 3450 mm
Centre of load (LSP)	1540 mm	1540 mm
Levelling equipment	Optional	Optional
Fork section W x H	260 x 210 mm	260 x 210 mm
Chassis/Steering		
3-wheel-chassis	yes	yes
Sideways travel	yes	yes
Steering	Operating panel	Operating Panel
Tyres	Vulkollan	Vulkollan
Travel		
Drive	Hydraulic	Hydraulic
Battery	4 x 6PZS 24V 480Ah	4 x 6PZS 24V 480Ah
Speed max.	Infinitely variable to 1,8 kph	Infinitely variable to 1,8 kph
Die displacement		
Drive	Hydraulic motor	Hydraulic motor
Function release	Docking	Docking
Overlap	300 mm	300 mm
Dimensions and space requirement		
Width	2300 mm	2300 mm
Length max.*	3850 mm	3850 mm
Height of mast, retracted	3000 mm	3000 mm
Height of mast, extended	–	4480 mm
Weight		
Unloaded, with Battery	13200 kg	14200 kg

* Length depends on depth of die

DILOS TRUCK FWKV



DILOS TRUCK FWKV 300



TYPE	FWKV 250	FWKV 300
Die dimensions		
Width min.	2000 mm	2000 mm
Depth min.	600 mm	600 mm
Depth max.	1800 mm	1600 mm
Load	250 kN	300 kN
Chassis/Steering		
3-wheel chassis	yes	yes
Sideways travel	yes	yes
Steering	Operating panel	Operating panel
Tyres	Vulkollan	Vulkollan
Table height	1000 mm	950 mm
Travel		
Drive	Hydraulic	Hydraulic
Battery	2 x 5PZS 24 V 625Ah	2 x 5PZS 24 V 625Ah
Speed max.	Infinitely variable to 0,9 kph	Infinitely variable to 0,9 kph
Die displacement		
Drive	Hydraulic motor	Hydraulic motor
Function release	Docking	Docking
Overlap	-	-
Dimensions		
Width	3600 mm	3700 mm
Length max.	2450 mm	2250 mm
Weight		
Unloaded, with Battery	9300 kg	9000 kg



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DILOS TROLLEY 05/10

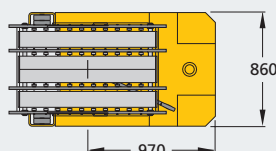
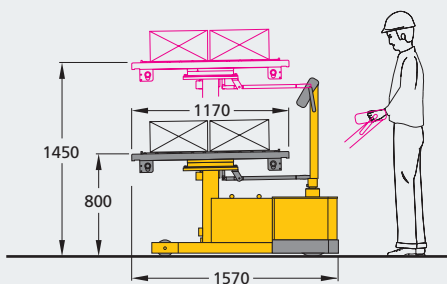
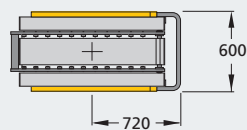
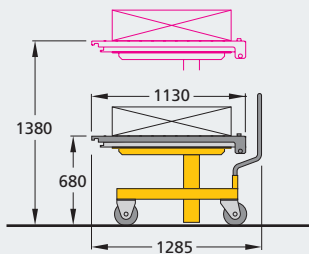
For simpler jobs

The DILOS TROLLEY rounds off the die transporter range with 2 platform trolleys for dies.

They permit quick changing of dies in the lower weight classes.

The revolving table of the DILOS TROLLEY 10 allows 2 dies to be swapped.

Both the DILOS TROLLEYS are moved by hand, or by an electric drive module with draw-bar steering.

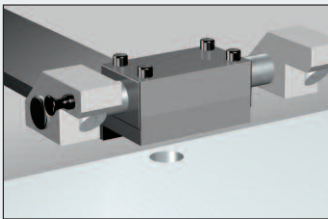


DILOS TROLLEY	05	10
Die dimensions		
Width min.	350 mm	350 mm
Depth min.	300 mm	300 mm
Depth max.	2x500 mm/1x1000 mm	2x500mm/1x1000 mm
Lifting Device		
Load	2 x 5 kN	2 x 10 kN
Standard stroke	680 to 1380 mm	800 to 1450 mm
Lifting operation	Manual Pump	Power Unit
Levelling equipment	Manual	Manual
Chassis/Steering		
Chassis	4-wheel	3-wheel
Steering	Push bar	Drawbar
Tyres	Polyamide	Vulkollan
Travel		
Drive	Manual	Elektric
Battery	-	2 x 12V GIS 100Ah
Speed max.	-	Infinitely variable to 1.8 kph
Die displacement		
Drive	Manual	Manual
Function release	Docking	Docking
Dimensions and space requirement		
Width	600 mm	860 mm
Length	1285 mm	1570 mm
Height	1000 mm	1350 mm
Weight		
Unloaded	240 kg	800 kg (including battery)

COMPONENTS, FUNCTIONS AND ACTIVITIES

Gripper hook coupling

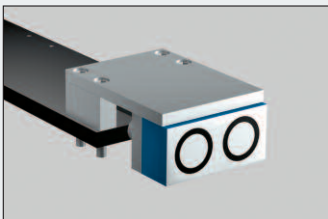
Two holes drilled in the base plate or in a plate added to the die are all that are needed to use the hook coupling. The coupling is opened by hand. This application is recommended particularly when additional visual inspection is required.



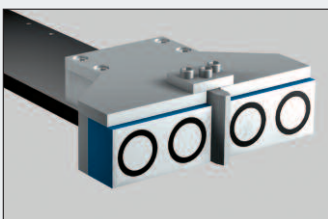
Hook coupling

Gripper magnetic coupling

This electromagnetic coupling is especially suited to applications where access is difficult, and for storing dies on high shelves.



Magnetic coupling for DILOS BUGGY



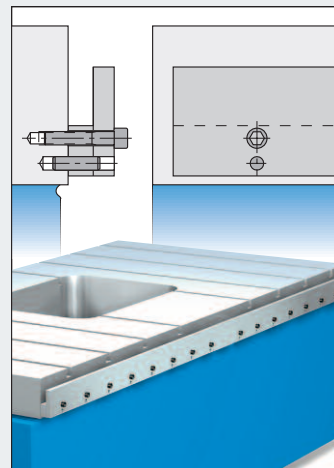
Magnetic coupling with centering bar

DILOS coupling bars for press beds

The conditions for installation on the front of the table top depend on several factors.

In addition to clarifying the details of assembly, the type of use should also be considered.

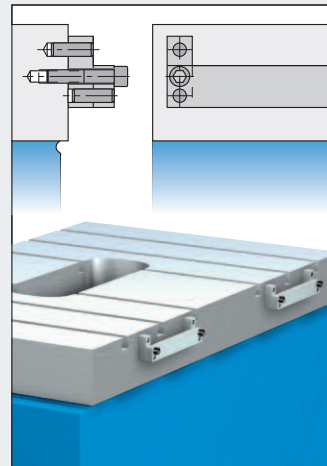
Will the carrying fork always be used with the same width adjustment?



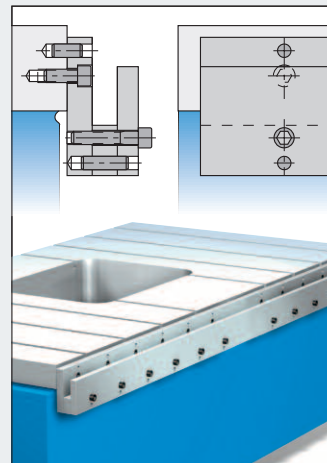
DILOS KLB coupling bar
Standard version for 'guided' traversing along the press bed

Should a DILOS TRUCK with the carrying fork "docked" be able to traverse the press bed to take up its hand-over position?

The various designs can be made with modifications in detail.



DILOS KLA coupling bar
Version for fixed widths of carrying fork



DILOS KLC coupling bar
Version for attachment to low-slung press beds



Battery-changing trolley

There is a matching battery-changing trolley for all versions of the DILOS TRUCK. As a rule, they include a battery charger, so they can serve as a charging station.

Battery care

For consistently high power and a long lifetime, high-quality wet tubular-plate batteries are used.

For optimum care of the batteries and shorter charging times, the Aquamatic function and electrolyte circulation can be integrated (optional).



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DILOS

Operating panel

The operator carries the operating panel on his chest, supported by shoulder-straps. This stable carrying position and the necessity of operating it with both hands ensure safe control of the DILOS TRUCK.



The operating panel has the following elements:

- Graphical display
- Program buttons to select the operating mode
- Joystick for controlling the movements corresponding to the operating mode, with integrated horn and acknowledge button (left hand) for all functions

Radio control

The operating panel can also be used with a wireless link instead of the cable connection.

Digitally controlled travel programs

The various travel programs are part of the innovative product philosophy.

1. For 'normal' straight-ahead travel, speed is infinitely variable between high speed and dead slow. The speed is automatically reduced when taking curves.
2. Sideways travel can also be varied infinitely between dead slow (with the fork raised) and fast.
3. The circular steering allows turning on the spot. Here, too, the speed can be varied infinitely.

The speed is associated with the current travel program, and is controlled with the joystick. Speed and direction of travel programs and actions (e. g. moving the die) are delicately controlled with the joystick.

Lowering

Lowering can be controlled manually or automatically (optional).

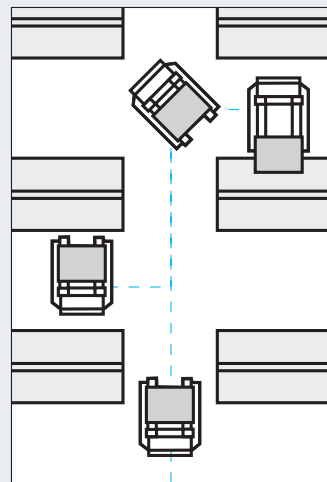
The automatic controls is switching the down movement of the carrying fork to creep speed just before reaching the hand-over position. When this position is reached, the movement is stopped by a tilt sensor.

Sideways travel – ideal for narrow aisles

The all-wheel steering of the DILOS TRUCK permits direct transition to sideways travel by swivelling the wheels through 90°.

This sideways travel allows the DILOS TRUCK to be used to stack the dies even in comparatively narrow aisles in the storage area.

The single-handed transportation of dies between storage, set-up table and press bed makes the DILOS TRUCK particularly economical in use.



The all-wheel steering of the DILOS TRUCK allows close-set storage racks to be used through sideways travel

Operation, Maintenance and Inspection

The DILOS TRUCK and DILOS BUGGY die-changing vehicles are pedestrian operated. This type of vehicle can always be driven without a driving licence. However, GÜTHLE do recommend some instruction, or the careful reading of the Operating Instructions. All notices, especially safety notices, must be observed before put in operation.

The annual inspection may be carried out along with the required safety check up by the expert or by GÜTHLE Customer Service.

DILOS STORAGE TECHNOLOGY

System-optimised storage racking system

DILOS storage racks are manufactured to individual requirements and for specific die dimensions.

Holes and flange dimensions are standardised, so that additions or modifications are easy to make.

The dimensions of the girders are harmonised with the weight class of the die-changing transporter used, e.g. DILOS BUGGY or DILOS TRUCK. This leads to an end-to-end system logic from die changing to storage of the dies in space-saving racks.



DILOS universal rack with laterally adjustable support beams in 2 different versions

The standard support beam (left) is intended for running under. The slide support beams (right) are fitted with a polyamide cover and a coupling plate

Universal through adjustable support beams

Large and small dies can be stored in a minimum of space on the adjustable support beams.

Large dies, which are about as wide as the chassis, are stored in a similar way to pallets, loaded into the racking system. In this case, the low chassis of the DILOS TRUCK runs under the bottom tier. The die is then placed on standard beams.

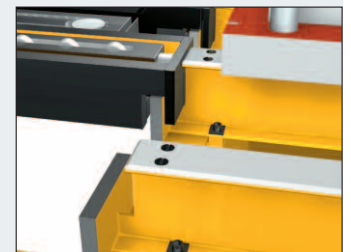
Dies that are narrower than the chassis can be stored by pushing into the rack on special slide-support beams with a plastic lining. These slide beams have coupling plates fitted at the front to engage the die-carrying fork during hand-over.



Direct storage. When larger dies are being deposited, the vehicle runs under the DILOS universal rack



DILOS double rack with slide support beams, usable from both sides. A DILOS TRUCK 40 is docked in front of one of the racks (height for standard lift range) and is removing a die



The coupling plates on the DILOS slide support beams are adjusted to the carrying fork of the DILOS TRUCK



Die-carrying fork and the slide support beams in line



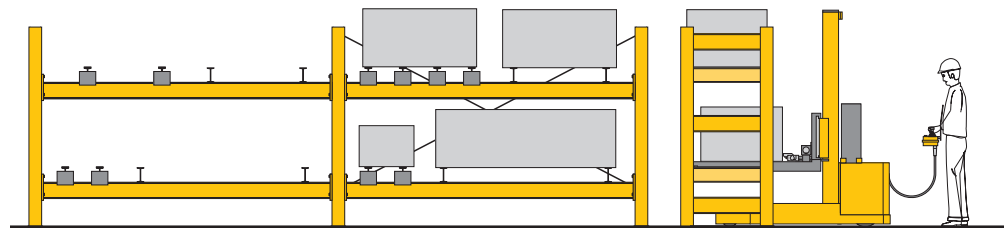
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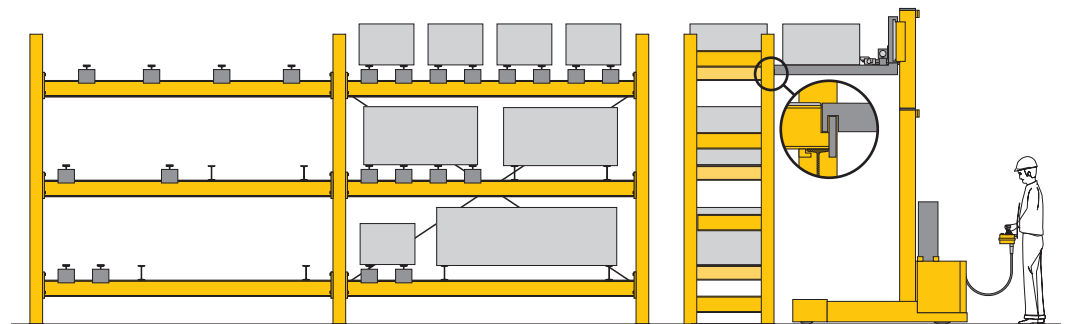
Storage technology, optimised for DILOS TRUCK/BUGGY

The DILOS TRUCK and DILOS BUGGY with the standard mast are designed primarily for changing dies. They can, however, be used for handling in the storage if the racks are of the appropriate height.

The space utilisation in the racking system can be increased through the use of a DILOS TRUCK/BUGGY with telescopic mast.



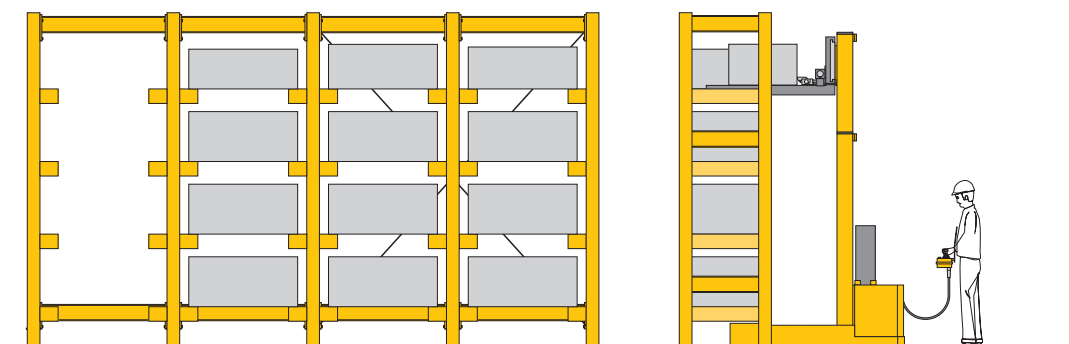
DILOS universal rack, version for DILOS TRUCK 40 with standard mast



DILOS universal rack, version for DILOS TRUCK 40 with telescopic mast

Modular rack for dies of equal size

The DILOS storage rack with short outrigger supports allows very compact storage of dies. The prerequisite is the use of equal-sized base plates or sub-plates.



DILOS modular rack, version for DILOS TRUCK 40 with telescopic mast



DILOS modular rack for dies on sub-plates and/or dies with base plates of equal size

GÜTHLE TRANSPORT TECHNOLOGY IN PERFECTNESS

*DILOS TROLLEY 05
manual execution
for easy dies*



*DILOS TROLLEY 10
with turnable table*



*DILOS BUGGY 20
with adjustable
distance of forks*



*DILOS BUGGY 30
with magnetic gripper*





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DILOS

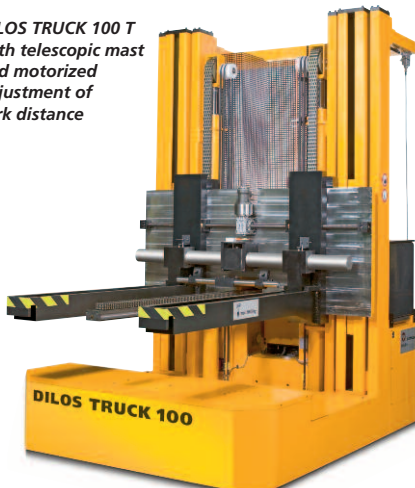
*DILOS TRUCK 40 T
with telescopic mast*



*DILOS TRUCK 60
with adjustable
distance of forks*



*DILOS TRUCK 100 T
with telescopic mast
and motorized
adjustment of
fork distance*



*DILOS TRUCK 160
with adjustable
distance of forks*



*DILOS TRUCK FWKV
for heavy dies at poor
space requirements*



*DILOS TRUCK FWKV
for heavy dies at poor
space requirements*





GÜTHLE
IDEA AND SYSTEMS

DILOS

www.guthle.com

DILOS SHUTTLE

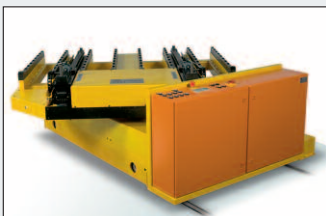
Die-changing cart in several versions. Many details of its technology resemble the design and functions of the DILOS TRUCK.



DILOS SHUTTLE with telescopic displacement unit



DILOS SHUTTLE, extra wide, for changing dies in push-through mode



DILOS SHUTTLE with rotating table

DILOS SWING SINK CLAMP

This hydraulic die clamp can be installed in the press bed and ram.

All that is needed on the die side are flanged holes. All the functions of the DILOS Swing Sink Clamp are automatically controlled. This makes the die clamp suitable for automated die changing.



Computer-controlled DILOS Swing Sink Clamp for ram and press bed

DILOS SlipGrip

This hydraulic clamping rail is a multifunctional element for the automatic guiding, carrying and clamping of dies. DILOS SlipGrip does not require any special preparation – a T-groove as defined in DIN 650 is sufficient.



DILOS SlipGrip. Perfect, all-in-one solution for die base plates or sub-plates of the same format

Consulting

The rationalisation of die changing is an essential aspect of the necessary increase in the flexibility of pressing and punching operations.

Fast, safe, and, in some cases, automation-capable handling of the dies is the central theme of the DILOS product range and philosophy.

Take advantage of our offer of an analysis of the situation and a realistic feasibility assessment, without obligation, before you start your decision-finding process. Güthle application consultants can give you comprehensive advice.

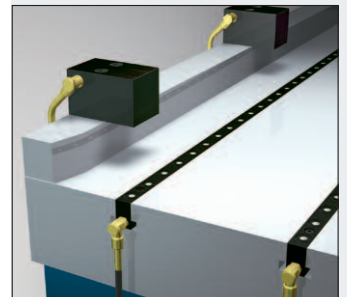
To start with, you will find some information at www.guthle.com

ROLLBLOC – all you need for changing and clamping on the press bed

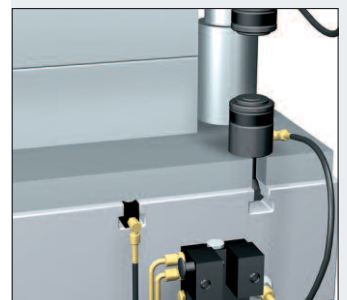
The ROLLBLOC product range is the ideal complement to the DILOS products.

Essentially, these products are die lifters, die loading arms in front of the press and hydraulic die clamps.

We will be pleased to send you the detailed ROLLBLOC product catalogue containing application information.



Example: ROLLBLOC Ball-Version Die Lifters with hydraulic connection, ROLLBLOC Guide Bars with hydraulic ROLLBLOC BS Block Clamps



Application example: ROLLBLOC HK Hollow Piston Clamp with hydraulic connection to the ROLLBLOC PH Park Station

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