



TERRA-JACK Tooling Catalog

Directional Rod Pusher



TERRA
Trenchless Technologies



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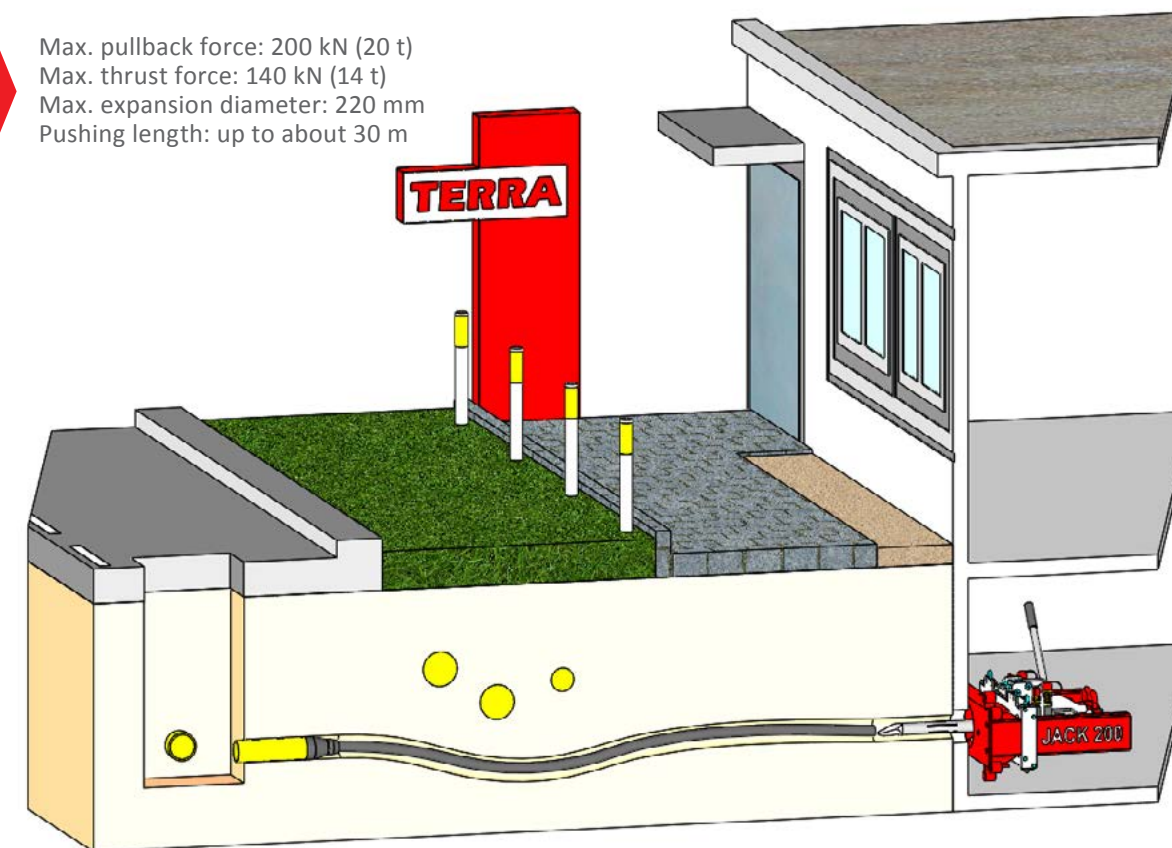
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Directional rod pushing with the TERRA-JACK 200

The TERRA-JACK 200 is the ideal machine for directional shorter undercrossings in displaceable soils with subsequent pipe feeding. Its small size, simple and quick dismantling into easily transportable components and the fact that it can be used from basements or pits prove to be particularly efficient, especially where space is limited.



Max. pullback force: 200 kN (20 t)
Max. thrust force: 140 kN (14 t)
Max. expansion diameter: 220 mm
Pushing length: up to about 30 m



The ideal machine for house connections

As a typical entry-level machine for trenchless pipeline construction, the TERRA-JACK 200 directional jacking system can be used successfully and in a variety of ways for controlled jacking after just a short familiarisation phase. It has a thrust force of 140 kN (14 t) and a pullback force of 200 kN (20 t).

The TERRA-JACK 200 is typically used for house connections, road or garden undercrossings, whereby lengths of 30 metres and more are possible. Controlled pilot pressing is carried out with the aid of a locatable transmitter positioned behind the pressing tip. The minimum radius of the pressing rods is 25 metres. The press channel is then widened to a maximum diameter of 220 mm in order to draw in plastic pipes up to a diameter of 160 mm.

The machine is driven by a robust hydraulic power pack or an excavator.

Your advantages of the TERRA-JACK 200



Dry solution:
No drilling fluid use, no drilling mud disposal.



Cellar operation:
Wall mounting for pressing from the cellar.



Easy handling:
Can be dismantled into four main components, easy to transport.



Pit operation:
Frame for pressing from pits.

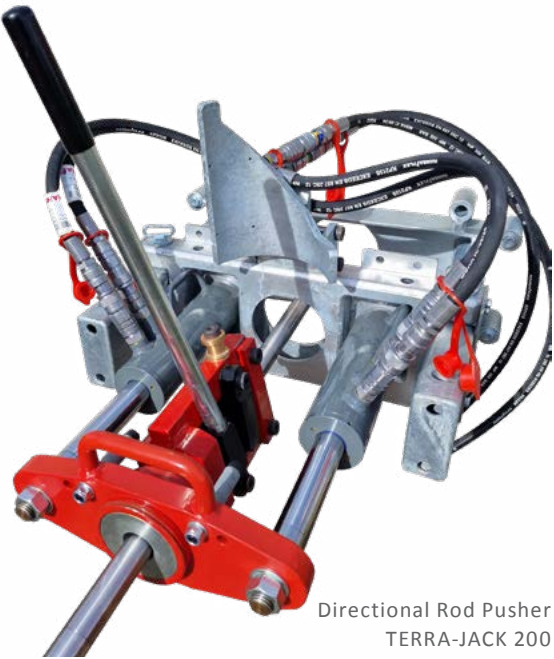
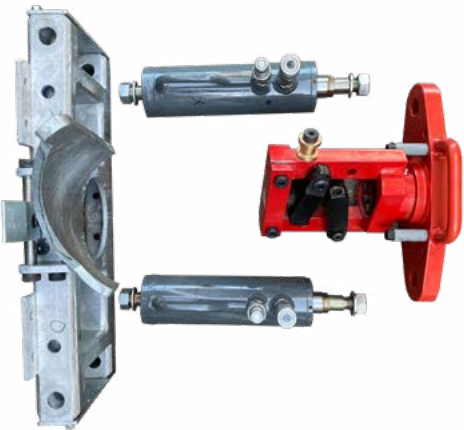


Easy installation

The TERRA-JACK 200 can be quickly and easily disassembled into a few components and reassembled. The 4 main components (front plate, two hydraulic cylinders, clamping unit) weigh a maximum of 24 kg each. For optimal positioning of the hydraulic hoses the hydraulic cylinders can be rotated by 120°. The wall flange with an opening width of 170 mm is usually mounted horizontally or vertically, depending on the available space.

Dismountable directional rod pusher

Thanks to its ability to be dismantled and its high pullback force of 200 kN (20 t) the TERRA-JACK 200 is the ideal machine for laying plastic pipes with diameters of up to 160 mm from the basement or a pit. TERRA offers various launching and safety accessories.



Directional Rod Pusher
TERRA-JACK 200

Wall flange for basement operation

The wall flange is equipped with several positions to fix the TERRA-JACK 200 on it. It offers a front position for the pilot bore and a rear position for the pulling procedure. This means that all tools including the pulling head and the pipe can be pulled into the basement. An installation template for marking the drill hole positions and special concrete screws speed up the wall flange installation.

Part Number	Description
1922.4000.00	TERRA-JACK 200
1922.4400.00	Wall flange for basement operation
1922.4400.10	Installation template for wall flange
9901.1640.00	Concrete screw $\varnothing$ =16 mm/ L = 160 mm
1922.8101.00	Impact wrench (1360 / 1900 Nm)

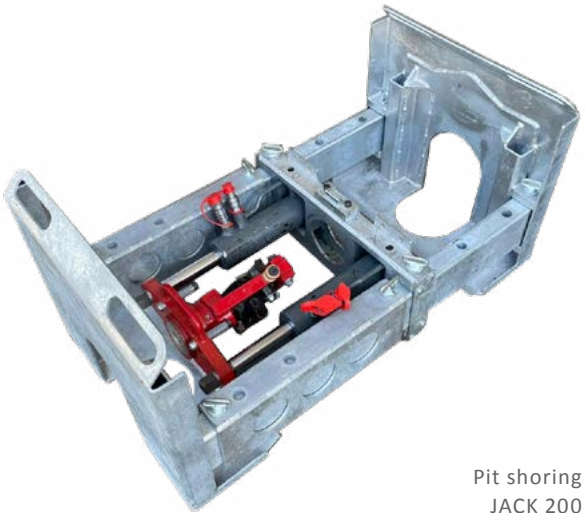


Wall flange
JACK 200

Pit shoring

When using the TERRA-JACK 200 in the excavation pit, the dismountable pit shoring ensures even distribution of the pressing and tensile forces.

Part Number	Description
1922.4460.00	Pit shoring JACK 200



Pit shoring
JACK 200

Automatic steering unit

A patented automatic steering unit makes it easier to jack straight ahead in soft ground: the clamping unit is automatically rotated during jacking, eliminating the need to turn the rod by hand using the control lever.



Precise pilot bore
 The directional pilot bore is carried out with the aid of a transmitter, which is located in a housing between the drill head and the first drill rod. It transmits the exact depth, inclination and roll angle to the receiver of the locating system.



Plastic pipes up to 160 mm
 After the pilot bore and the expansion of the ground, pipes with outside diameters of up to 160 mm can be pulled in.

Sonde Housings and Drill Heads

Rod Pushing Accessories

Rods and adapters

The drilling tools for the TERRA-JACK 200 meet the highest quality standards in order to successfully do the job. The rods are light and have a minimum bending radius of 25 m. They are equipped with a hexagon, so that they can be loosened quickly with an impact wrench.

Part Number	Description
1922.5600.00	Rod ø 33/L 0.5
1922.5605.00	Rod ø 33/L 0.5/Screw ¹⁾
1922.5900.00	Magazin for 5 drill rods
1922.4665.00	Rod wiper JACK 200
1921.5602.01	Screwable dust cap (pin)
1921.5603.01	Screwable dust cap (box)
1921.5615.00	Adapter for intermediate expansion ²⁾
1921.5610.00	Pipe pulling coupler L210 ³⁾
1921.5611.00	Pipe pulling coupler L355 ⁴⁾
¹⁾ with bore and screw, for pushing back the expander cone ²⁾ for screwing drill rods behind the expander cone ³⁾ to attach plastic pipes behind the expander cone ø 60-100 mm ⁴⁾ to attach plastic pipes behind the expander cone ø 115-220 mm	



Sonde housing and thrust heads

The slim sonde is located in the sonde housing for locating the thrust head during the pilot bore. Different thrust heads are offered for various ground conditions.

Part Number	Description
1921.5100.00	Sonde housing ø 45/JACK-26pin ⁵⁾
1921.5103.00	Sonde housing ø 45/API-30box ⁵⁾
1921.5113.00	Sonde housing ø 53/API-30box ⁶⁾
1921.5108.00	Subsaver API30pin/JACK26pin
1921.5102.00	Thrust head 45/standard
1921.5101.00	Thrust head 45/aggressive
1921.5111.00	Thrust head 53/standard
1921.5112.00	Thrust head 53/aggressive
⁵⁾ for slim sonde ø = 25.4 x 204 mm from DCI ⁶⁾ for sonde ø = 32 x 380 mm from DCI	



Expander Cone and Expander Star

Expanding Accessories

Expander cones

After the pilot bore, the thrust head and sonde housing are dismantled and replaced by an expander cone. The expander cone expands the bore channel during pipe pulling. It protects the pulling head from falling soil material. Depending on the ground conditions expander cones up to Ø 220 mm can be used and PE pipes with OD up to 160 mm can be pulled in.

Part Number	Description	for PE-pipes [mm]
1921.5210.01	Expander cone 60	< 40
1950.5323.02	Expander cone 80	< 50
1950.5320.01	Expander cone 100	< 63
1950.5242.00	Expander cone 115	< 75
1950.5245.02	Expander cone 135	< 90
1950.5246.01	Expander cone 160	< 110
1950.5246.05	Expander cone 170	< 125
1950.5247.01	Expander cone 195	< 140
1950.5248.01	Expander cone 220	< 160

The expander cone must be at least 10 % larger than the outer diameter of the new pipe.



Expander cone 100



Expander cone 135



Expander star 75



Expander star 145

Expander star

Expander stars are used for the linear pre-weakening and loosening of the subsoil. They thus facilitate the pipe pull-in and are mounted in front of the expander cones.

Part Number	Description	for expander cone [mm]
1921.5310.00	Expander star 75	EC 60
1921.5311.00	Expander star 85	EC 80
1921.5312.00	Expander star 95	EC 100
1921.5314.00	Expander star 105	EC 115
1921.5316.00	Expander star 125	EC 135
1921.5318.00	Expander star 145	EC 160
1921.5319.00	Expander star 160	EC 170
1921.5320.00	Expander star 185	EC 195
1921.5322.00	Expander star 245	EC 220

EC = Expander cone

Towing Heads and Expander Chucks

Pulling Accessories

Shackles and butterfly shackles

Shackle and chain lock are used to connect the expander cone with the towing head.

Part Number	Description	Pullback force [t]
1960.7004.00	Shackle 3200	3.2
1960.7005.00	Shackle 4750	4.8
1944.5549.00	Shackle 8500	8.5
1960.7002.00	Shackle 12000	12.0
1900.5360.00	Butterfly shackle 10	12.5
1900.5362.00	Butterfly shackle 13	20.0



Butterfly shackle 12.5 t



Shackle 4.75 t

Cable pulling socks

Cable pulling socks are often used for smaller pipe diameters. They are available up to OD 110 mm.

Part Number	Description	for PE pipes OD [mm]
1900.5503.08	Cable pulling socks DA 15-20	15-20
1900.5503.10	Cable pulling socks DA 20-25	20-25
1900.5503.20	Cable pulling socks DA 25-30	25-30
1900.5504.00	Cable pulling socks DA 30-40	30-40

Pulling socks up to OD 110 mm are available on request



Cable pulling sock

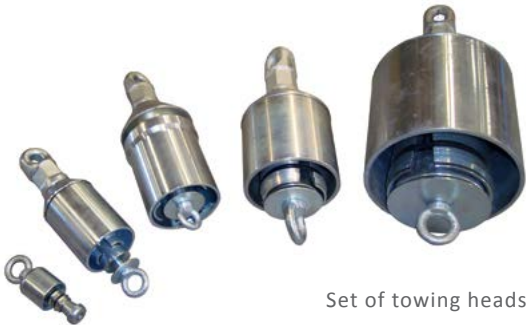
Towing heads

The pulling head is connected to the plastic pipe. The outer support sleeve prevents the plastic pipe from expanding when it is clamped. The stable towing eyelet allows tensile forces up to 250 kN (25 t).

Part Number	Description	for PE pipes OD [mm]	Pullback force[t]
1964.5501.00	Towing head 032	32	0.6
1965.5503.00	Towing head 040	40	1.0
1965.5505.00	Towing head 050	50	1.6
1964.5511.00	Towing head 050	50	11
1965.5507.00	Towing head 063	63	11
1900.5512.01	Towing head 072	72	11
1965.5509.00	Towing head 075	75	11
1965.5511.00	Towing head 090	90	11
1900.5516.00	Towing head 092	92	11
1965.5520.00	Towing head 110	110	25
1900.5520.01	Towing head 112	112	25
1965.5515.00	Towing head 125	125	25
1900.5523.00	Towing head 132	132	25
1965.5517.00	Towing head 140	140	25
1965.5519.00	Towing head 160	160	25



Towing head 110



Set of towing heads

Locating Systems

Locating Accessories

DCI Locating systems

TERRA is an official DCI dealer. The Falcon locating system is the most modern for your directional rod pusher system. It consists of a transmitter, receiver and monitor.

Part Number	Description
1961.7130.00	Falcon F1 without screen
1961.7131.00	Falcon F1 with screen FCD
1961.7132.00	Falcon F1 with screen AF8
1961.7133.00	Falcon F1 with screen AF10
1961.7150.00	Falcon F2+ with screen FCD
1961.7151.00	Falcon F2+ with screen AF8
1961.7152.00	Falcon F2+ with screen AF10
1961.7160.00	Falcon F5+ with screen FCD
1961.7161.00	Falcon F5+ with screen AF8
1961.7162.00	Falcon F5+ with screen AF10

FCD = black and white remote display with magnetic stand
AF 8 = coloured touchscreen display with magnetic stand
AF 10 = coloured touchscreen with mobile docking station



Falcon F1 with FCD screen

Falcon F2+ with aurora AF8 screen

Transmitter and long life battery

The transmitters enable precise localisation down to a depth of 38 m. They work with a frequency band of 4.5 - 45 kHz. The long-life battery can be used for up to 120 hours.

Part Number	Description
1961.7138.00	Falcon F1 transmitter, L = 381
1961.7137.00	Falcon F1 transmitter, L = 203
1961.7154.00	Falcon F2+/F5+ transmitter, L = 381
1961.7153.00	Falcon F2+/F5+ transmitter, L = 203
1961.7165.00	Falcon F5+ transmitter, pressure, L = 381
1961.7166.00	Falcon F5+ transmitter, pressure, L = 482
1900.7183.00	Long life battery, for transmitter L = 380
1961.7136.00	Battery for Falcon F1 transmitter, CR123A
1932.4553.00	Adapter cable cigare (pin) / 4pol (box)
1961.7145.00	Yagi Antenne for Falcon F1, F2, F5



Transmitter + Longlife battery

ZipLevel Pro-2000

The Zip-Level Pro-2000 enables the measurement of height differences of up to 12 m over a 60 m circle.

Part Number	Description
1921.6040.00	ZipLevel Pro-2000



High precision altimeter Zip Level

Power Pack

Power Pack and Connecting Tools

Rato Power Pack

The TERRA-JACK 200 is powered by a proven 23 HP strong Rato petrol power pack. It offers up to 40 l/min at 235 bar. The TERRA-JACK 200 can also be driven by an excavator.

Part Number	Description
1955.3002.00	Rato Power Pack
1955.4407.00	Connecting hose Y/DN13/2x0.6m (box)
1955.4408.00	Connecting hose Y/DN13/2x0.6m (pin)
1922.3800.00	Hydraulic pressure hose DN13/5m/Flat (Bg2)
1931.3812.00	Hydraulic pressure hose DN20/15m/Flat (Bg4)



Petrol power pack

Control unit

The control unit controls the hydraulic cylinders. It is assembled between the hydraulic power pack and the TERRA-JACK 200.

Part Number	Description
1955.3002.00	Control unit
1944.3215.00	Battery 12 V/60 Ah ¹⁾
1921.4408.00	Battery cable 1 m/7-pole ¹⁾
1932.3842.00	Electric cable JACK/15m
1931.3845.00	Adapter cable cigarette/ 7-pole

1) is needed to drive the JACK 200 with an excavator.



Control unit TERRA-JACK 200

System box

With the system box you can load and transport easily the TERRA-JACK 200 including all accessories such as the locating system, the rods or the assembling tools. This saves time and money on the job site.

Part Number	Description
1921.8200.00	System box
1921.8100.00	Tool box
1921.8640.00	Electrical strike alarm
1921.7810.00	Safety kit ³⁾
1921.8501.00	Spare and wearing parts ⁴⁾

3) consisting of grounding mat and grounding stick
4) consisting of rod clamp, rod guide, steering lever, sleeve for clamping unit and ball bearing



System box



Technicians on site

Our experienced technicians provide professional on-site support. Our service is provided directly from the manufacturer's factory at standard regional conditions or by qualified authorized dealers. You have direct access to the TERRA service hotline, where we connect you to our service team. A service package is offered with every machine to ensure a long lifetime of your machine. You have very low follow-up costs or repair costs. Swiss Made Quality requirements instead of expensive repair costs - that is our claim for Trenchless Technology.



Long-term spare parts service - High investment protection

We keep a huge stock of spare parts. Owing to intelligent digital control, essential spare parts are immediately available. We keep spare parts even 20 years after delivery of your machine. Within Europe we deliver spare parts within 24 hours. Lean logistics and a fast process organization make this possible. With every machine delivered, you receive spare parts catalogs and operating manuals. If service is required, our team of experts can help you quickly and competently.



Service hotline

Our service hotline connects you directly to the service department with a technician. Thanks to good documentation, we can quickly localise your problem and help you further. Even with machines that have been in use for a very long time, good documentation ensures that we can continue to help you even years later. This offers you a high level of investment protection.



Fleet management (telematics)

TERRA offers fleet management for all HDD machines. This allows you to keep track of your TERRA machine. With the telematics, all machine data is transferred to a cloud, which can be viewed on your tablet or mobile phone. Thanks to this intelligent solution, you can intervene quickly in the event of an emergency. The data is directly connected to our service department, where experts can help you quickly and reliably.



Training with TERRA certificate

Our experienced staff offers training for your crews available on the jobsite or in the classroom. With our insider knowledge we make you run your drill like no one else. Your crew will be faster, more productive and more efficient on the jobsite. After the successful training you will receive a TERRA certificate which allows you to operate the machine at its best.



Theory and practice

Well-trained operators are an important cornerstone for successful deployment. The comprehensive theoretical training includes topics on process engineering, machine technology and how to handle your newly acquired machine. On request your crew will be made familiar with the machine at the jobsite. Well-trained staff pays off for your investments in our machines.



Lucrative financing offers

TERRA offers lucrative financing for new and used machines. Whether you want an operate lease, finance lease or installment plan - talk to our experts about the best solution for you. Even repurchases of existing equipment can be discussed individually.

Piercing Tools

TERRA-HAMMER Series T / TU



Horizontal Directional Drill (HDD) Machines

TERRA-JET



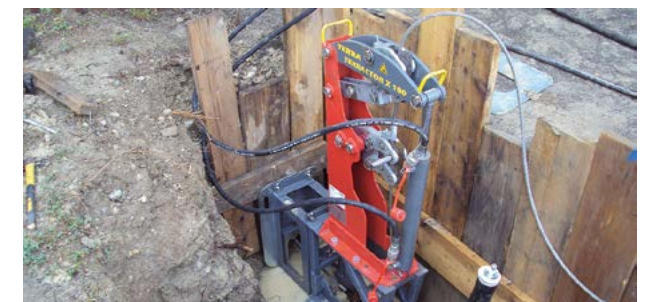
Rod Bursters

TERRA-HYDROCRACK



Cable Bursters

TERRA-EXTRACTOR



Steel Pipe Ramming Systems

TERRA-HAMMER Series TR



TERRA-JACK 200

Technical Specification

TERRA-JACK 200

Thrust force	140 kN (14 t)
Pullback force	200 kN (20 t)
Pilot bore diameter	45 mm
Expanding diameter, max. *	220 mm
Maximum drilling length *	30 m
Rods, length	0.5 m /1.0 m
Rods, diameter	ø 33 mm
Rods, bending radius	25 m
Dimensions L x W x H (without frame)	0.45 x 0.65 x 0.30 m
Weight	90 kg
Weight single components (front plate, hydraulic cylinders, clamping unit)	24 kg (max.)

ANTRIEBSAGGREGAT

Drive capacity	23 HP (17 kW)
Fuel	Petrol
Hydraulic oil circuit	40 l/min at 235 bar
Voltage	12 V, 5 A
Petrol tank	4.5 l
Extra tank	20 l
Hydraulic oil tank	25 l
Dimensions L x W x H	1.00 x 0.85 x 1.00 m
Weight (with empty tank)	195 kg
Weight (with full tank)	240 kg

* These specifications are dependent on the subsoil conditions. Larger expansion diameters and longer jacking distances might be also possible.

TERRA – always one drill ahead!



PIERCING TOOLS

The piercing tools from TERRA are fast and precise. The service friendly design makes it easy to operate. It's a must have for every contractor.



DIRECTIONAL DRILLS

The TERRA HDD drilling rigs are among the front runners, in terms of productivity and quality. TERRA offers a wide range of HDD drilling rigs.



PIPE REPLACEMENT

With the rod and cable burster from TERRA old pipes for house connections or sewer lines can be replaced by a new one.



CUSTOMER SERVICE

Satisfied clients worldwide and a great customer service are the result of our constant progress. The TERRA-JET Directional Drill is a must have for every contractor!