

TRACTO

All information on
GRUNDOBURST

TRACTO.COM/GRUNDOBURST



GRUNDOBURST STATIC PIPE BURSTING SYSTEMS THE RENOVATORS



ADVANCED TRENCHLESS TECHNOLOGY

GRUNDOBURST MACHINES FOR PIPE RENEWAL

The powerful and robust GRUNDOBURST pulling rigs are perfectly suited for pipe renewal using the static pipe bursting method. Damaged pipes up to Ø 1,200 mm (circular and oval profiles) can be renewed trenchlessly underground. With the relining-method even larger diameters can be renewed.

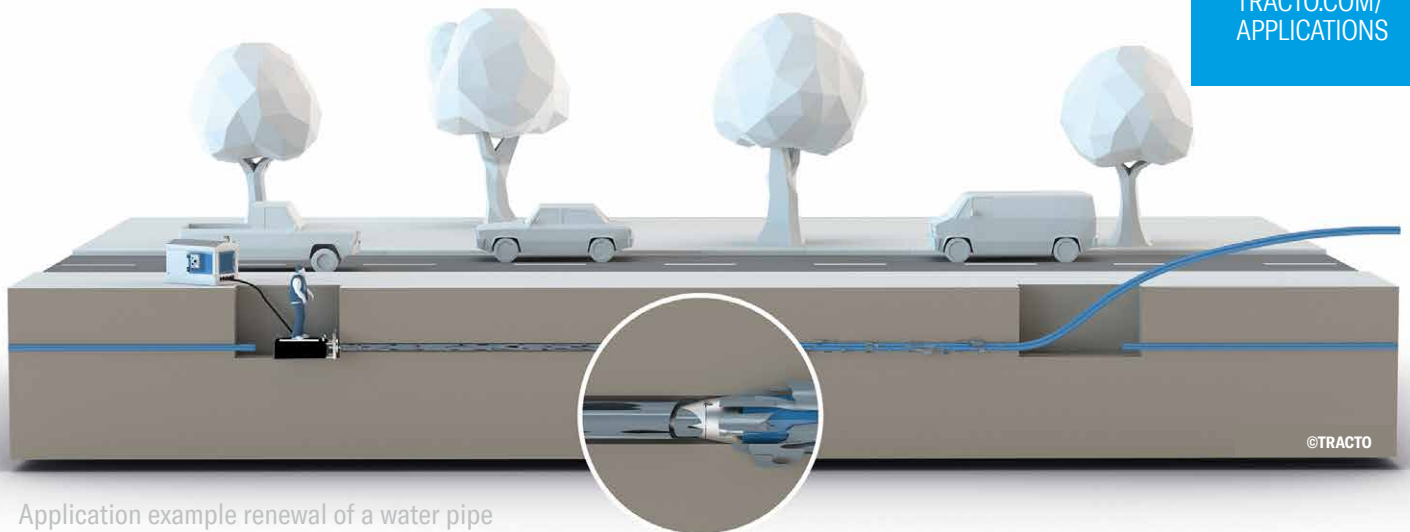
Pipe bursting is an internationally recognised and, most of all, sustainable method for the renewal of old pressure lines and free-flow pipes (clay, B, PVC, PE, GG, GGG, AZ, GRP, steel etc.) during which are replaced with new pipes (PE, PP, clay, GGG, GRP, steel, PVC etc.) of the equal, smaller or larger diameter.

ADVANTAGES

- Can be used for almost all types of damage and old pipe materials
- Long service life of new pipes from 80 – 100 years
- Upsizing of pipe capacity by 1 – 2 nominal sizes possible
- QuickLock: Simple and safe rod connection -

- latch instead of threaded connection; even slight bends are possible
- Short assembly and setup times
- Renewal of existing routes
- Big saving in cost compared with open trench methods
- Very little impact on traffic and environment
- No subsequent costs due to ground settlement, groundwater interference and road damage after pipe bursting
- Safe application according to latest rules and standards

APPLICATION



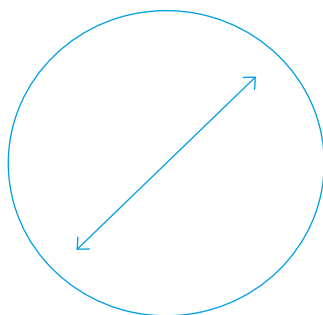
Application example renewal of a water pipe

GRUNDOBURST Application Videos



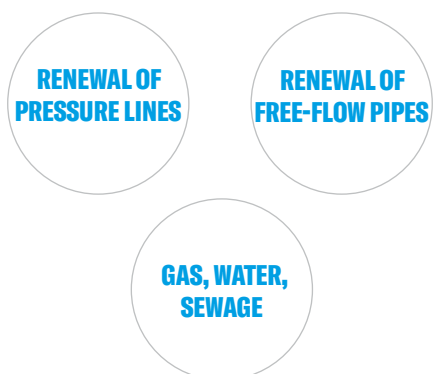
TRACTO.COM/
APPLICATIONS

PIPE DIAMETER

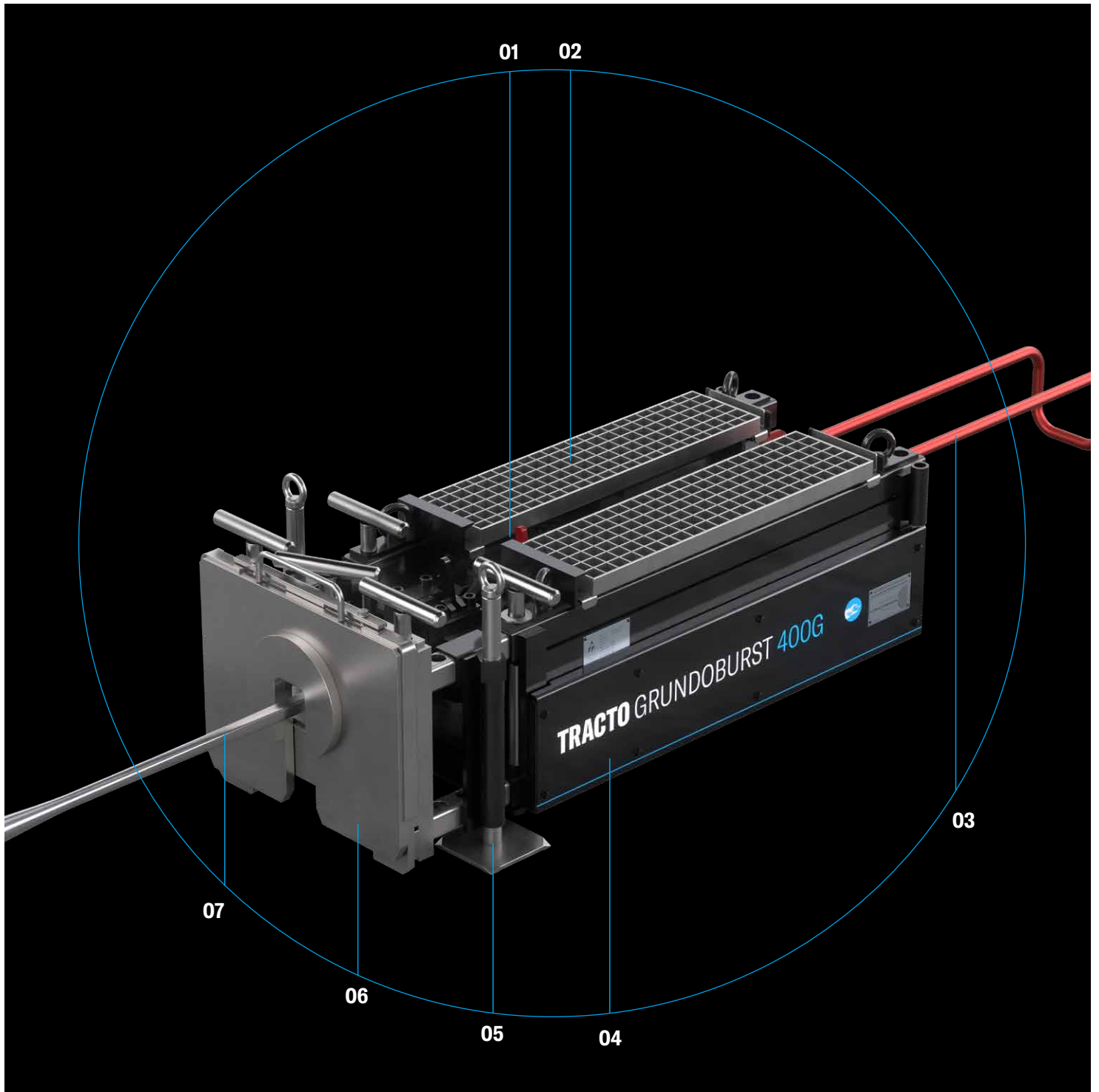


50 – 1.200 MM Ø

MAIN APPLICATIONS



OVERVIEW



01 Two latch fingers – low wear, 100% transmission of force, optimum rod attachment, positive connection, no soil sliding down in elastic soils

02 Step grid gives the machine operator a safe standing position

03 Safety guard prevents anybody standing directly behind the machine in the burst rod exit area

04 Very simple, robust frame design – resistant, durable, economical

05 Height adjustable via threaded rods to adapt the machine to the height and inclination of the old pipe

06 Integrated, telescopic add-on frame – flexible adaption to available space, low setup times, simple recovery of accessories

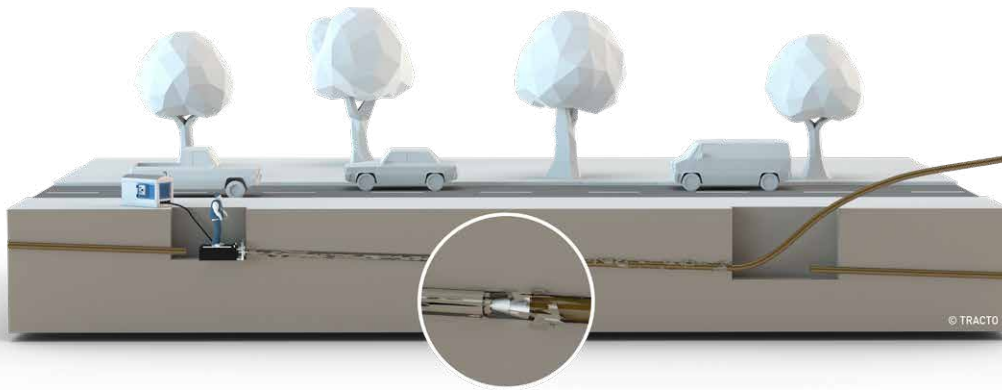
07 Rods are resistant to dirt – low maintenance effort, low wear

Comprehensive accessories for practically all old and new pipe materials as well as for short and long pipes – broad application range, cost effective use

Optimum power to weight ratio – only small transport and lifting equipment required

GRUNDOBURST

ONE MACHINE, FIVE METHODS

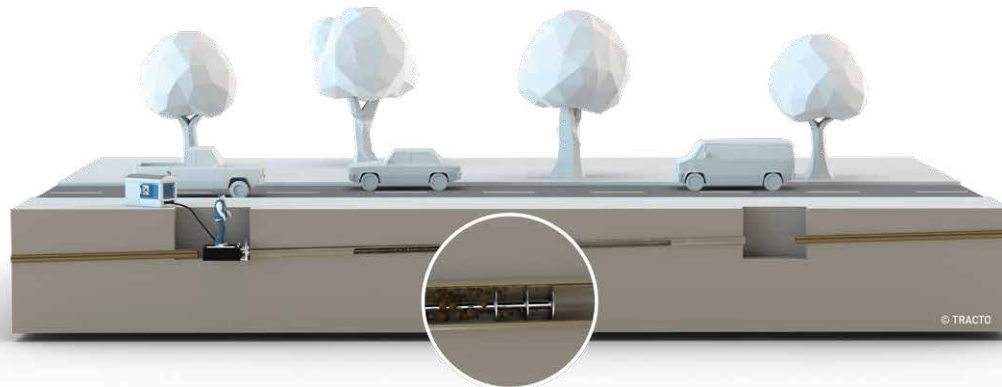


PIPE BURSTING – PULLING IN A NEW PIPE OF THE SAME SIZE OR LARGER

Trenchless renewal in the existing pipe route. Installation of the new line with identical or larger nominal diameters.

Application: water and gas pressure pipes and gravity gradient lines, nominal diameters ND 50 to ND 1,200, mains replacement lengths up to 300 m.

Types of damages: burst pipes, encrustation, drain blockage, substandard installation of sewage pipes, positional displacement (misalignment, gaps in the sleeve), cracks, leakage, mechanical wear



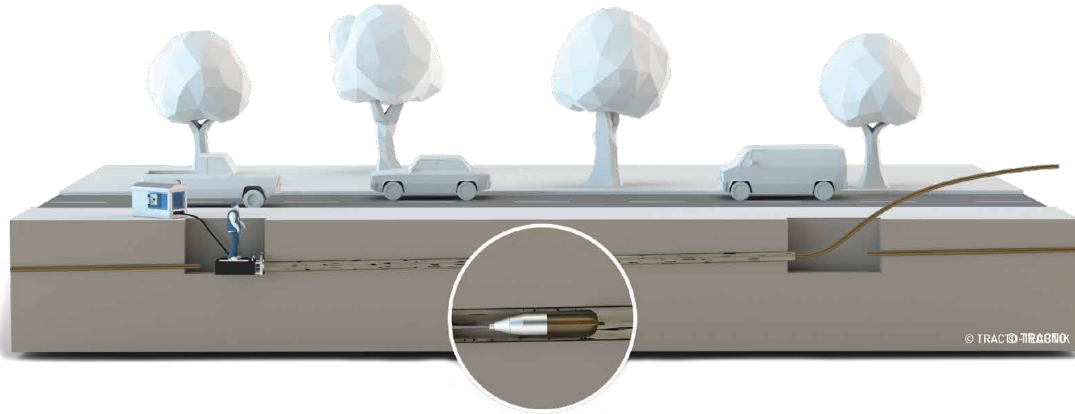
PIPE RELINING – SLIGHT REDUCTION OF THE PIPE'S CROSS SECTION

With smaller dimensioned long and short pipes for encrusted old pipes; cleaning equipment can be carried along with the Quicklock rods while the pipe is being pulled in which loosens encrustation and pushes it out.

Application: pressure / gravity gradient lines with free cross sections in the old pipe

Types of damages: corrosion / encrustation, cracks, leakages, mechanical wear

VARIATIONS

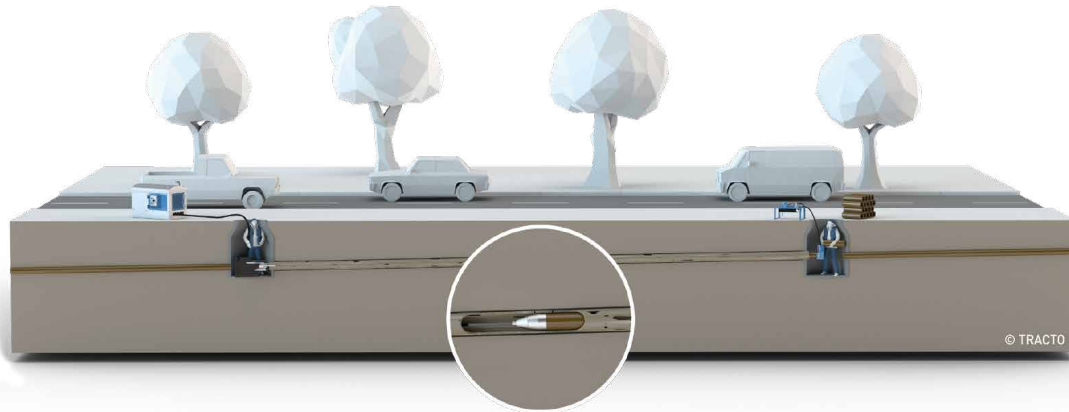


CALIBRE PIPE BURSTING – DAMAGED PIPE SECTIONS ARE STATICALLY EXPANDED

Partially damaged pipe sections are expanded statically with GRUNDOBURST, a new pipe is pulled in at the same time, creating an annulus which is usually grouted.

Application: pressure pipes and gravity gradient lines with free cross sections caused by collapse in the old pipe (drill free beforehand). With this method, collapsed old pipes must first be drilled free. Pipe cross-section is then slightly reduced.

Types of damages: local deformation, cracks, displacement, burst pipes.

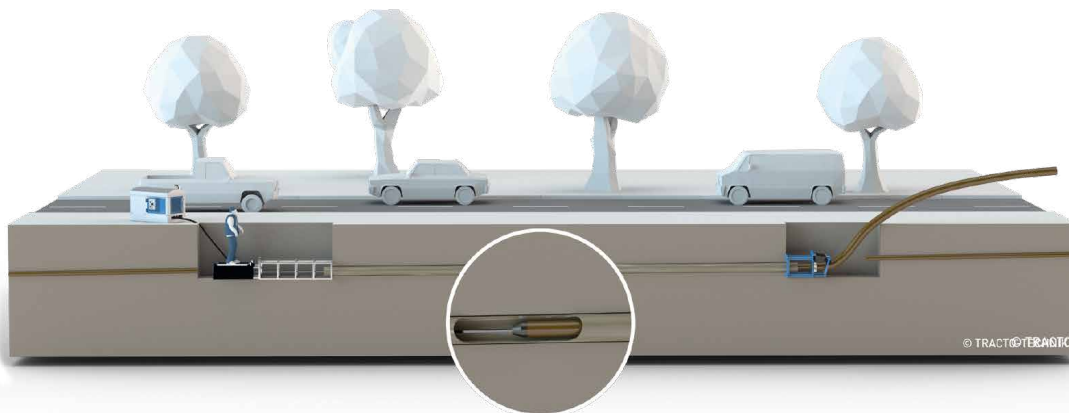


TIP METHOD – THE NEW PIPE FITS CLOSELY TO THE INTERNAL WALL OF THE OLD PIPE

The tight-in-pipe method is a short or long pipe relining for concrete and stoneware pipes. Mainly a new pipe made of polypropylene is installed to fit closely inside the old pipe (tight-in-pipe). The tiny annulus needs no grouting.

Application: renovation of sewer lines made of asbestos cement, concrete and vitrified clay.

Types of damages: burst pipes, deformation up to 20 %, misalignment up to 15 % of the cross section, corrosion, drainage, cracks and leaks, mechanical wear, encrustation (must be removed beforehand).



REDUCTION METHOD – THE PIPE'S CROSS-SECTION IS TEMPORARILY REDUCED WHILST BEING PULLED IN

The reduction method is a relining technique for which the outer diameter of the long PE pipe length is mechanically reduced. After the pulling-in process, the reduced PE-length attaches itself to the old pipe. This method is also known as the Close-Fit-Method.

Application: rehabilitation of circular crosssections from ND 100 to app. ND 1,200 for gas, water and sewage.

Types of damages: corrosion, cracks, leakage, mechanical wear, encrustation, (to be removed beforehand).

THE BEST FOR PIPE RENEWAL



QUICKLOCK BURST RODS

- Quick locking couplings without thread (QuickLock), no lubrication required, therefore no time consuming screwing together required
- Quick rod insertion and removal
- The rods are connected faster than threaded rods
- Absolutely push and pull resistant
- Able to negotiate bends
- Integral production, therefore highly resistant to stress
- Robust, low-wear as clamping is not required
- No slipping back of the rods, due to direct force transmission
- Rod system with convenient rod accessories
- Longer service life than screwed rods



QuickLock bursting rods are available from 35 mm diameter for pipes from ND 50. Other rod diameters: 54 mm, 75 mm, 100 mm, 120 mm and 140 mm



Positive introduction of force - very simple mechanism, barely any wear, maximum safety

BURSTFIX

BURSTFIX with 200 kN, 400 kN or 800 kN tensioning power for tight-fitting connections when pulling in short pipes from ND 200 to ND 1,200 Pulling in short pipes made of PP, PE, PVC, concrete, VCP, GFRP etc



BURSTFIX 200 inside the manhole.

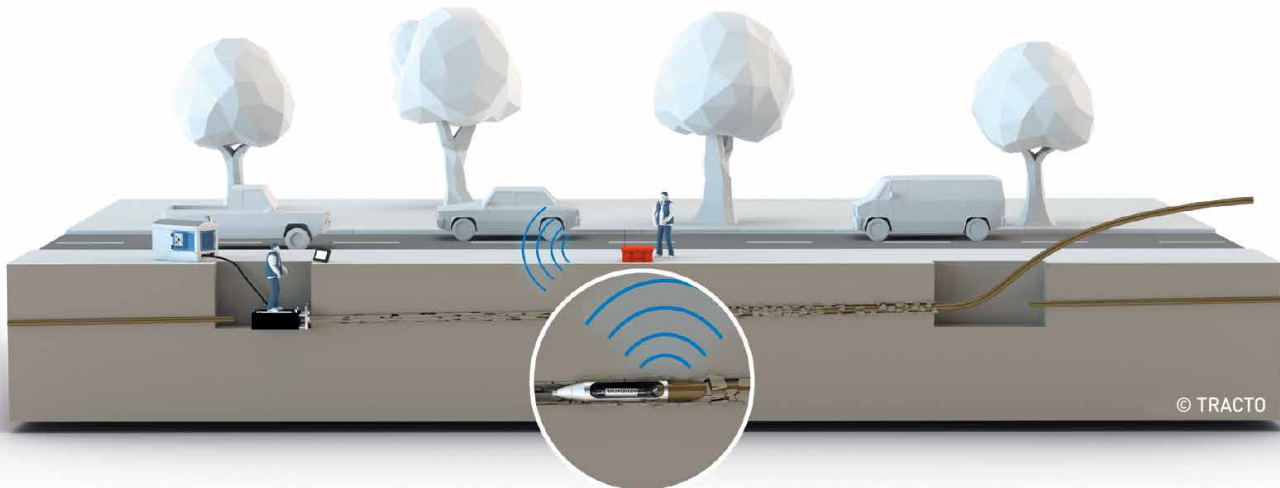


BURSTFIX 400 in use.

ACCESSORIES

PULLING FORCE MEASUREMENT WITH GRUNDOLOG

Product pipes must not be overstrained and the permissible tensile forces during pipe installations have to be taken into consideration. According to standards, the pulling forces affecting the new pipe shall be measured and recorded continuously. Grundolog is assembled between the expander and the product pipe. The tensile forces are measured by the DMS technology and stored for later processing. Optionally, it is also possible to read out the data during the pipe installation and to interrupt the pulling in process if the permissible tensile force is exceeded.



PULLING FORCE MEASUREMENT GRUNDOLOG

- Monitoring and logging of pulling force imparted on new pipe during installation
- Performance categories: 150kN, 400kN, 1,250kN, 2,500kN
- Self-sufficient storage and live transfer of data possible



WELL EQUIPPED

ROLLER BLADE

Roller cutter for cutting open old lines from ND 50 to ND 1,000 mm



Roller blade Ø 100 mm



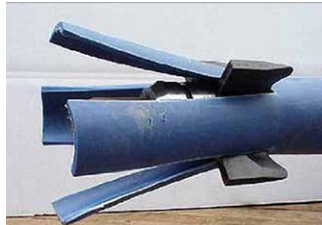
Roller cutter body with cutter strip Ø 1,000 mm

CALIBRATED BURST HEADS



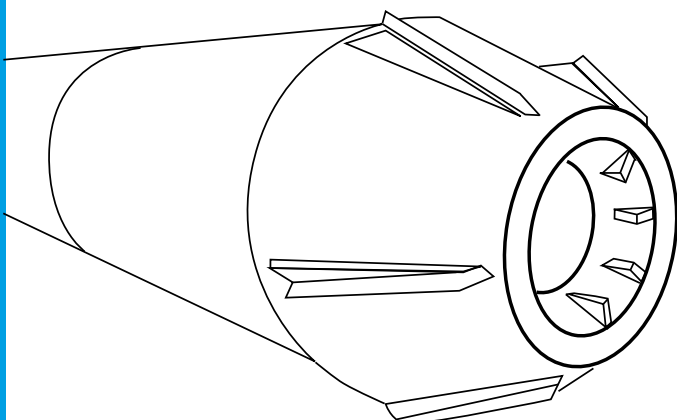
For bursting armoured concrete pipes.

HOOK KNIFE



Hook knife for cutting old PE/PP pipes.

UPSIZING WITH AND WITHOUT CUTTER STRIPS



For bursting and upsizing old and brittle pipe materials.

PRODUCT RANGE

PRODUCTS OF THE GRUNDOBURST SERIES

- Compact dimensions for small pits
- Can be applied from a pit in both directions
- GRUNDOBURST 400S for Manhole start
- Fast operating cycles and high output
- Rapid rod pushing through old pipe and during new pipe installation
- Quick to get started
- All machine models have remote control
- Low weight for easy transport
- Accessories specific to the procedure
- Stable and job-site specific construction to withstand the highest of loads and strain
- Long service life and low maintenance effort
- Ergonomic operation and high level of work safety
- CE-certified



GRUNDOBURST 400G



GRUNDOBURST 400S



GRUNDOBURST 800G



GRUNDOBURST 1250G

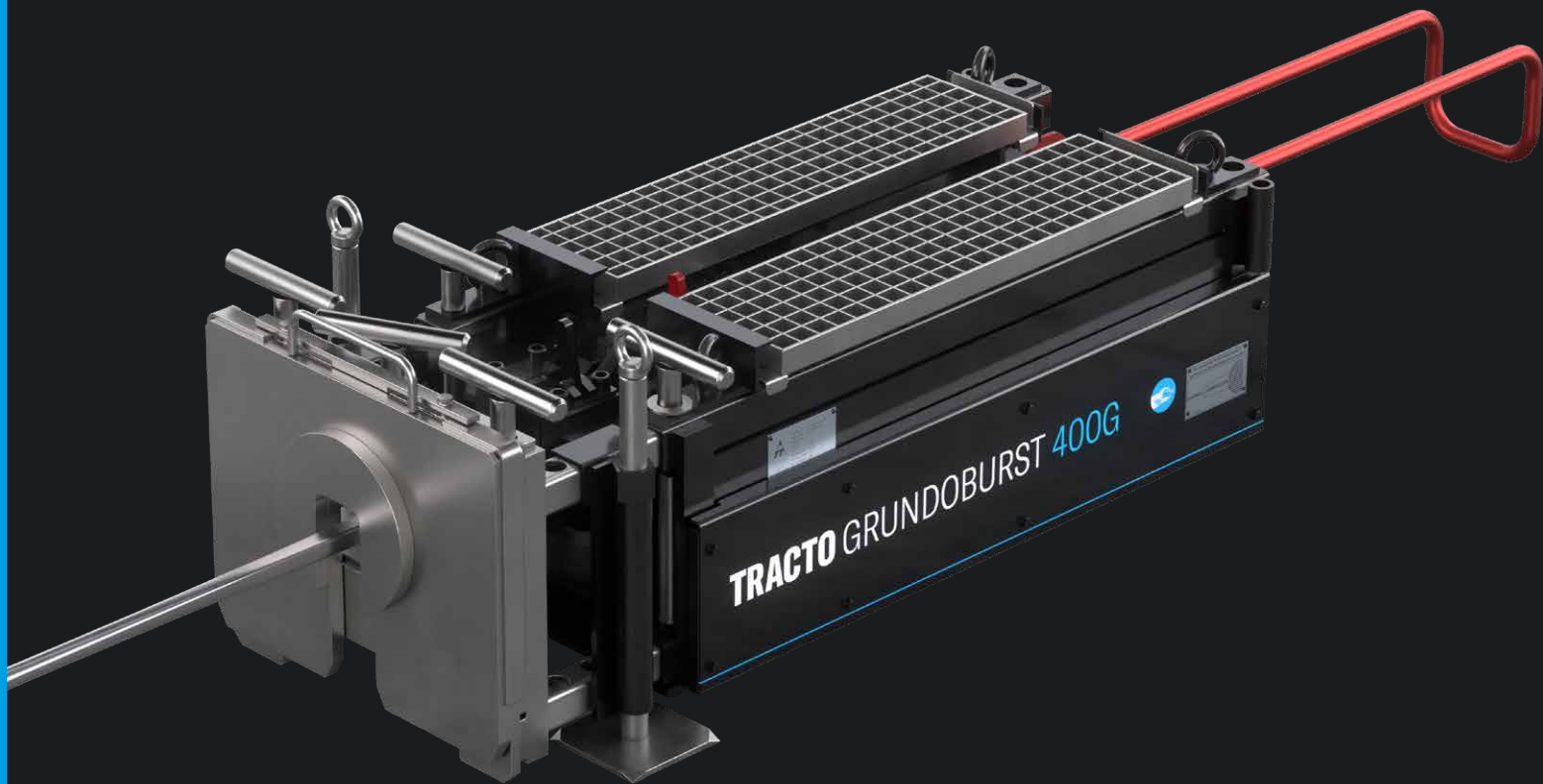


GRUNDOBURST 1900G



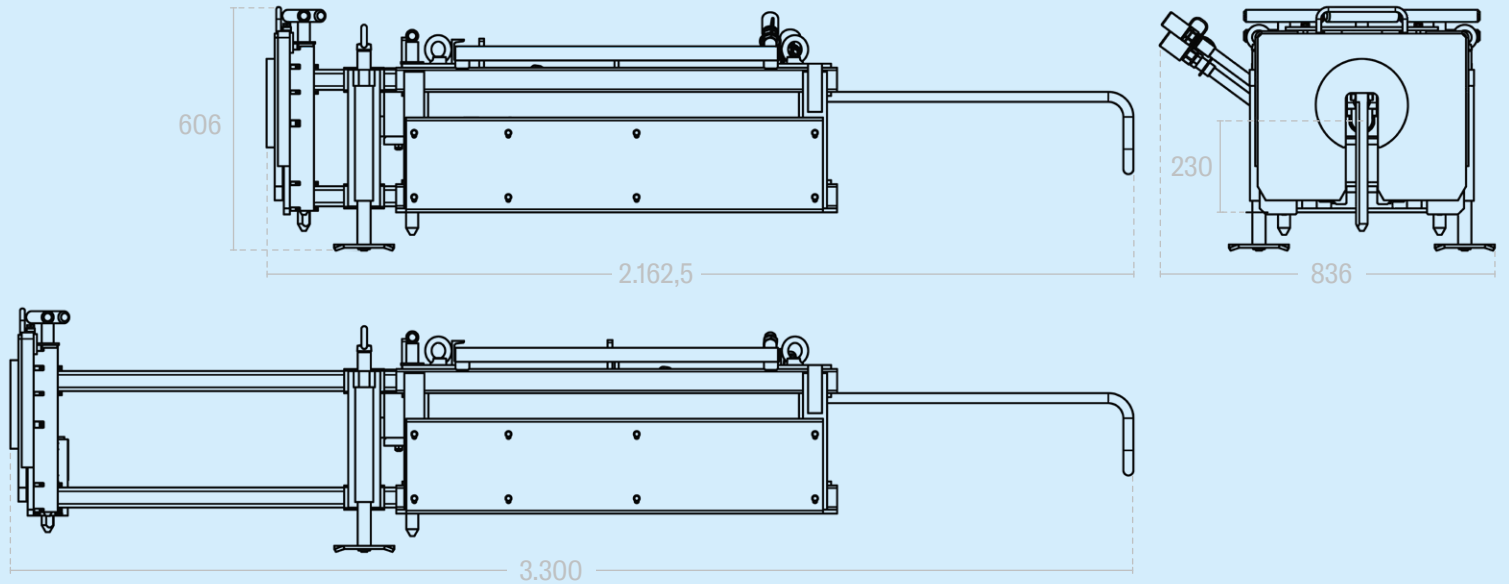
GRUNDOBURST 2500G

GRUNDOBURST 400G



- For pressure and gravity pipes ND 50 - DN 250 up to approx. 100 m length (depending on method)
- Compact dimensions for small pits
- Rapid work cycles and high performance
- Fast rod pushing in the old pipe and fast pulling in of the new pipe
- Light weight for simple transportation
- Can be applied in both directions – from a single pit
- Simple installation and rapid machine start
- One-man operation with remote control
- Accessories for specific methods

VARIATIONS



TECHNICAL DATA

GRUNDOBURST 400G

Dimensions of rig LxWxH	1,420 x 560 x 520 mm
Weight of rig	560 kg
Thrust	275 kN
Pulling force at 250 bar	400 kN
Pit size LxW	3,300 x 1,100 mm
Axle height	230 mm
Hydr. operating pressure	250 bar
Old pipe Ø	ND 50 - ND 250 mm
For pipe materials	PVC, PE, stoneware, ductile/grey cast iron, AC, GFRP, steel
New pipe Ø	up to OD 280 mm
For pipe materials	PVC, PE, stoneware, grey cast iron, GFRP, steel
Bursting rod Ø	54 mm
Bursting rod Ø alternative	35 (max. 200 kN) mm
Bursting rod weight	7,5 kg
Effective bursting rod length	700 mm
Hydraulic units	HP19, HP28, HP 37, HP 55

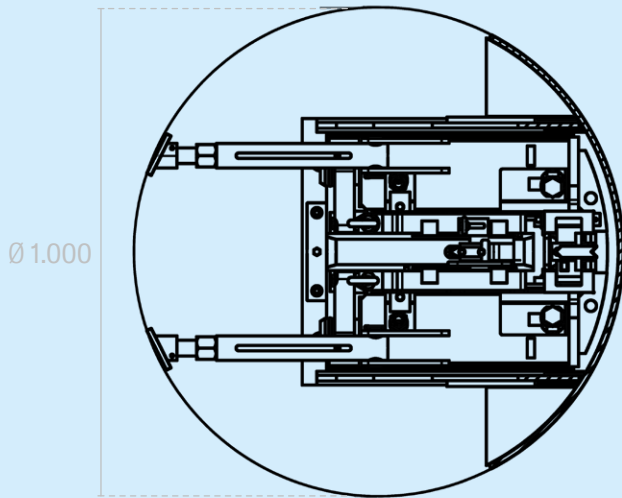
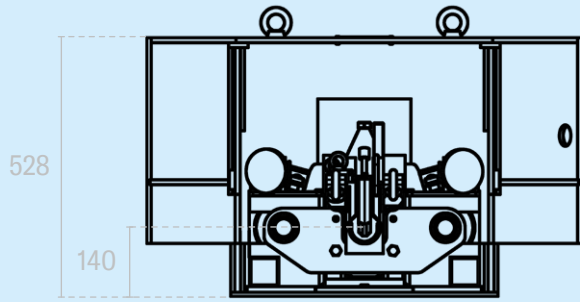
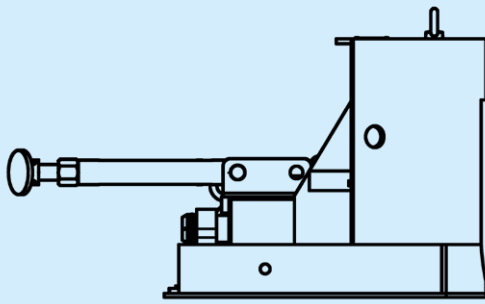
All data without guarantee

GRUNDOBURST 400S



- For pressure and gravity pipes ND 50 - DN 250 up to approx. 100 m length (depending on method)
- for installation in manholes \geq ND 1000 and in small pits
- Pulling rig length only 23.62 inches
- Effective rod length in the manhole: 18.05 inches
- Simple operation in the manhole
- No excavation when working from manhole to manhole
- All-round working safety

VARIATIONS



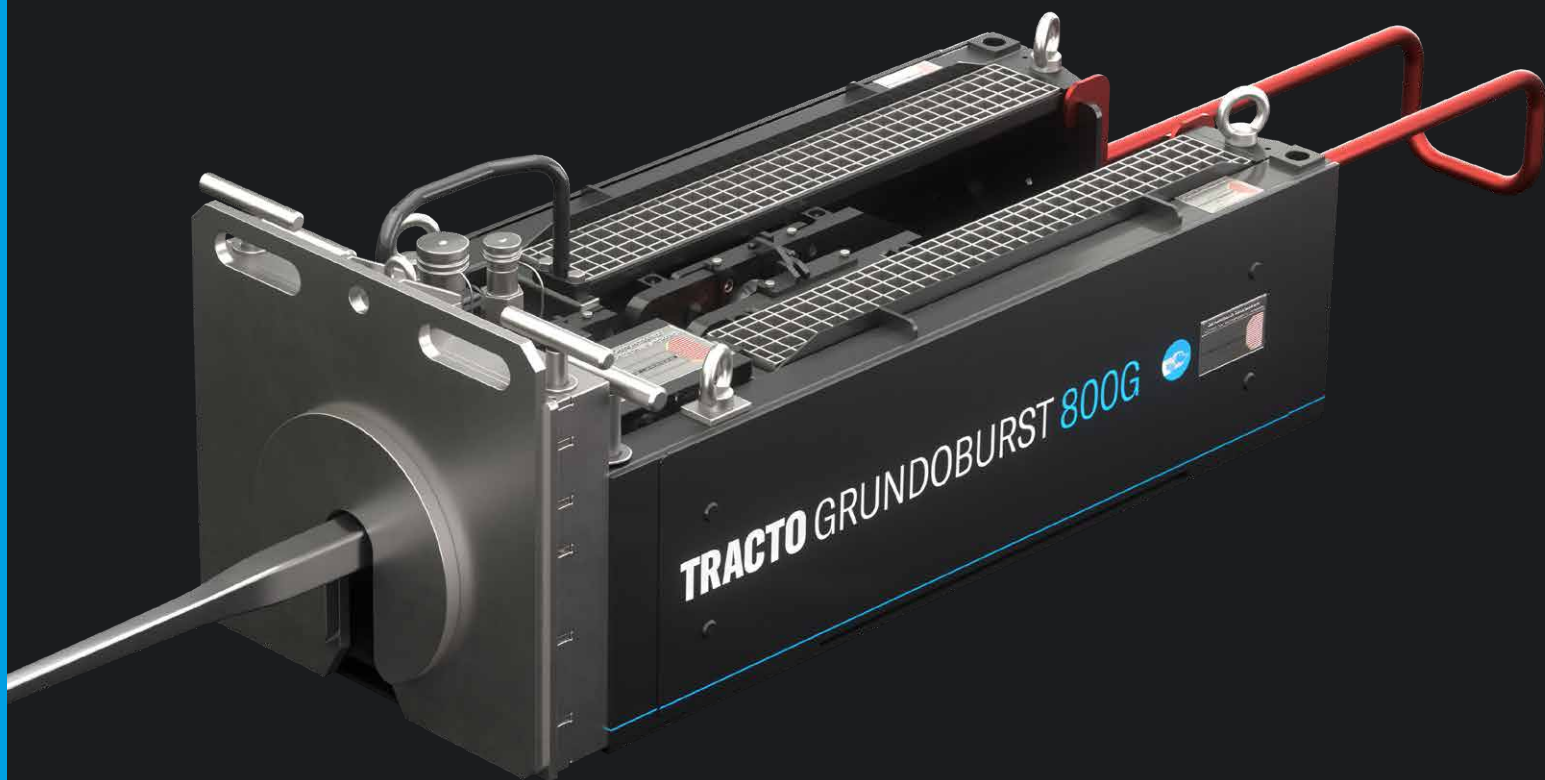
TECHNICAL DATA

GRUNDOBURST 400S

Dimensions of rig LxWxH	600 x 490 x 340 mm
Weight of rig	200 kg
Thrust	275 kN
Pulling force at 250 bar	400 kN
Pit size LxW	2,500 x 1,100 mm Shaft: min. Ø 1,000 mm
Axle height	Pit: 220 mm Shaft: 140 mm
Hydr. operating pressure	250 bar
Old pipe Ø	ND 50 -ND 250 mm
For pipe materials	PVC, PE, stoneware, ductile/grey cast iron, AC, GFRP, steel
New pipe Ø	up to OD 280 mm
For pipe materials	PVC, PE, stoneware, grey cast iron, GFRP, steel
Bursting rod Ø	54 mm
Bursting rod Ø alternative	35 (max. 200 kN) mm
Bursting rod weight	5 kg
Effective bursting rod length	470 mm
Hydraulic units	HP19, HP28, HP 37, HP 55

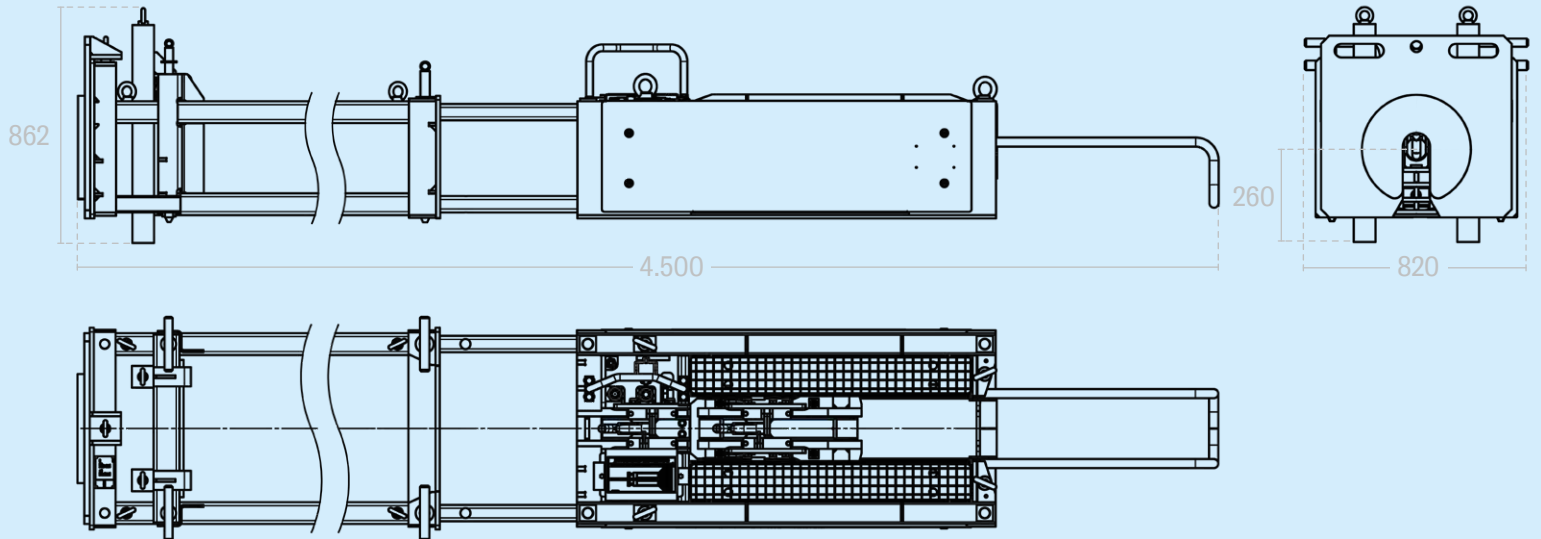
All data without guarantee

GRUNDOBURST 800G



- For pressure and gravity pipes ND 80 - DN 400 up to approx. 100 m length (depending on method)
- Compact dimensions for small pits
- Rapid work cycles and high performance
- Fast rod pushing into the old pipe and fast pulling in of the new pipe
- Can be applied in both directions
 - from a single pit
- Rapid machine start
- One-man operation with remote control
- Accessories for specific methods

VARIATIONS



TECHNICAL DATA

GRUNDOBURST 800G

Dimensions of rig LxWxH	1,700 x 720 x 670 mm
Weight of rig	1,450 kg
Thrust	256 kN
Pulling force at 250 bar	769 kN
Pit size LxW	4,500 x 1,500 mm
Axle height	260 mm
Hydr. operating pressure	250 bar
Old pipe Ø	ND 80 - ND 400 mm
For pipe materials	PVC, PE, stoneware, ductile/grey cast iron, AC, GFRP, steel
New pipe Ø	up to OD 400 mm
For pipe materials	PVC, PE, stoneware, grey cast iron, GFRP, steel
Bursting rod Ø	75 mm
Bursting rod Ø alternative	54 (max. 400 kN) mm
Bursting rod weight	13 kg
Effective bursting rod length	750 mm
Hydraulic units	HP28, HP37, HP55

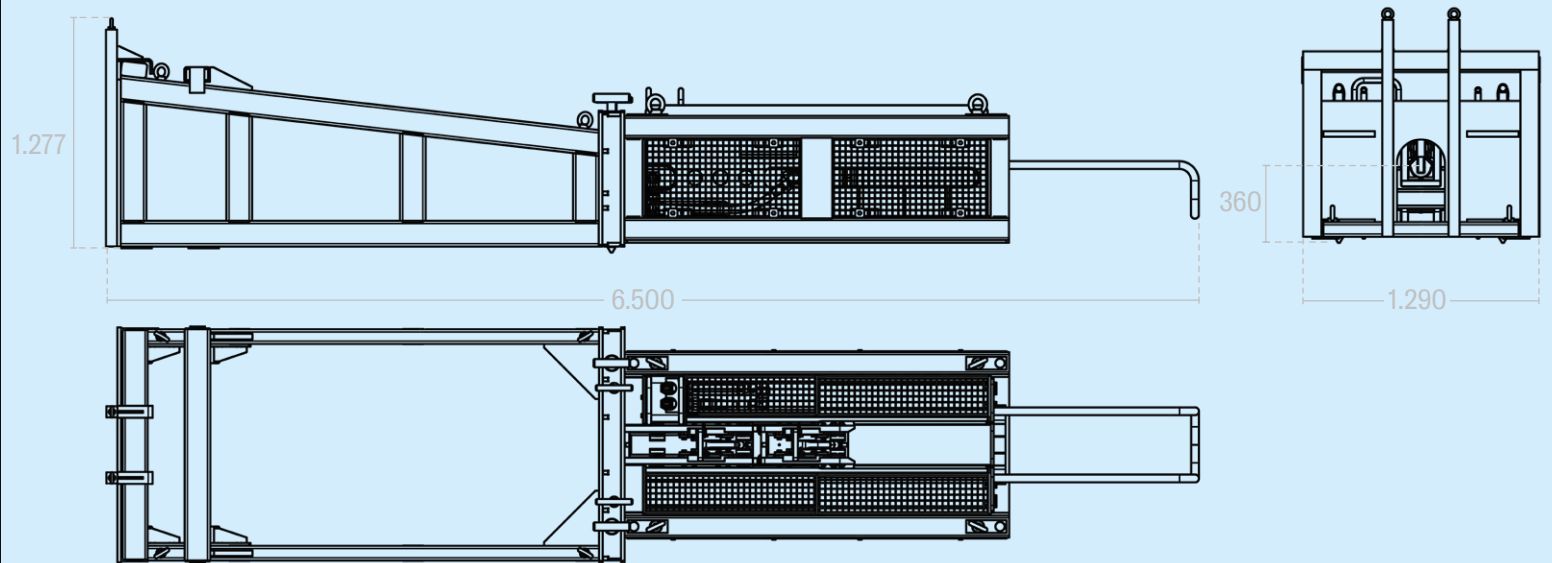
All data without guarantee

GRUNDOBURST 1250G



- Maximal pulling force 1,270 kN
- For pressure and gravity pipes ND 150 - ND 600
- Installation lengths up to ca. 300 m length (depending on method)
- Compact dimensions for small pits
- Fast operating cycles and high output
- Rapid rod pushing through old pipe and during new pipe installation
- Can be applied from a pit - in both directions
- Quick to get started
- One-Man operation with remote control
- Burst rods placed in position with lifting device
- Accessories specific to the procedure

VARIATIONS



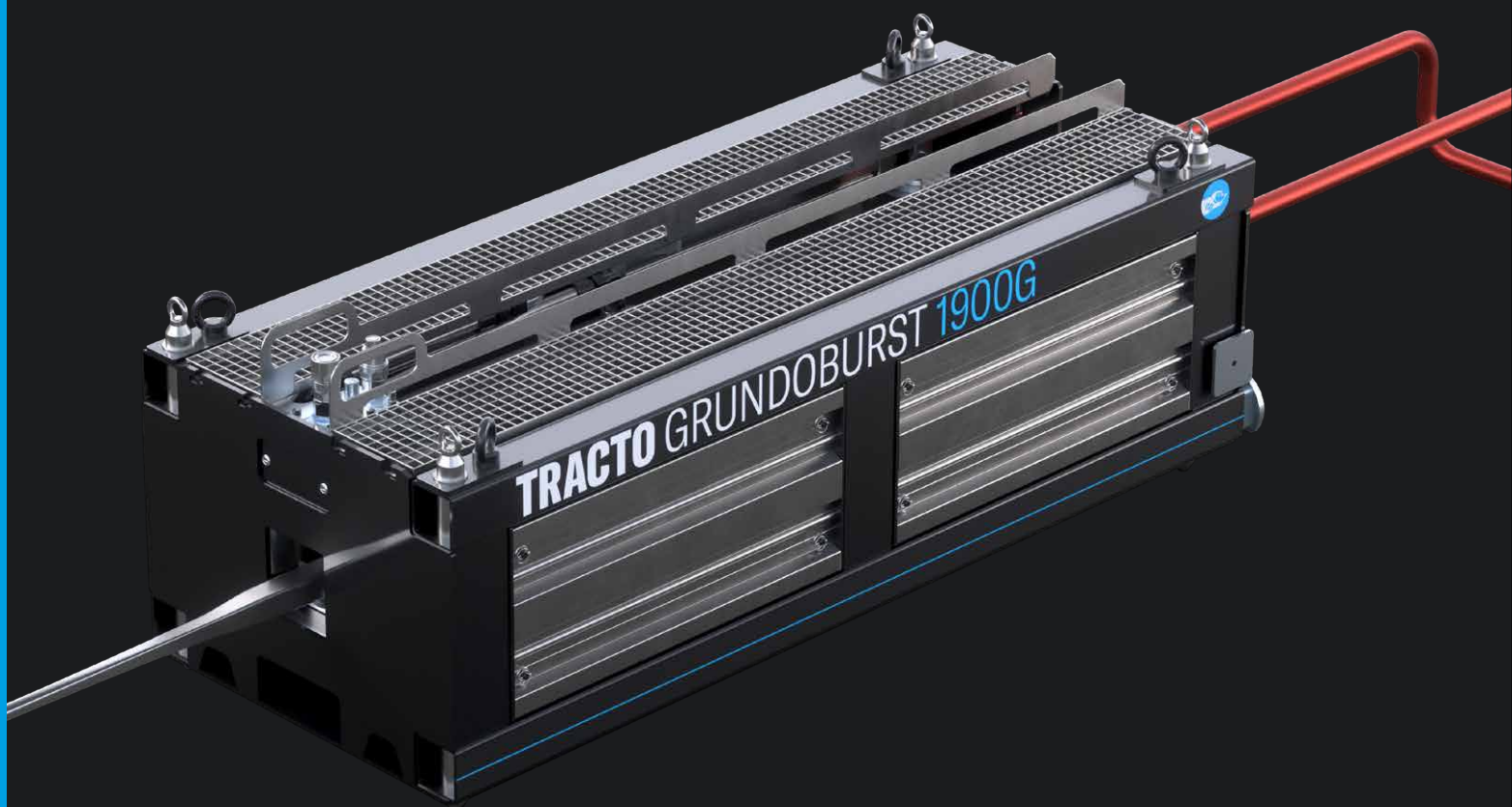
TECHNICAL DATA

GRUNDOBURST 1250G

Dimensions of rig LxWxH	2,300 x 1,100 x 875 mm
Weight of rig	3,120 kg
Thrust	395 kN
Pulling force at 250 bar	1,272 kN
Pit size LxW	6,500 x 1,700 mm
Axle height	360 mm
Hydr. operating pressure	250 bar
Old pipe Ø	ND 150 - ND 600 mm
For pipe materials	PVC, PE, stoneware, ductile/grey cast iron, AC, GFRP, steel
New pipe Ø	up to OD 630 mm
For pipe materials	PVC, PE, stoneware, grey cast iron, GFRP, steel
Bursting rod Ø	100 mm
Bursting rod weight	85 kg
Effective bursting rod length	1,700 mm
Hydraulic units	HP55

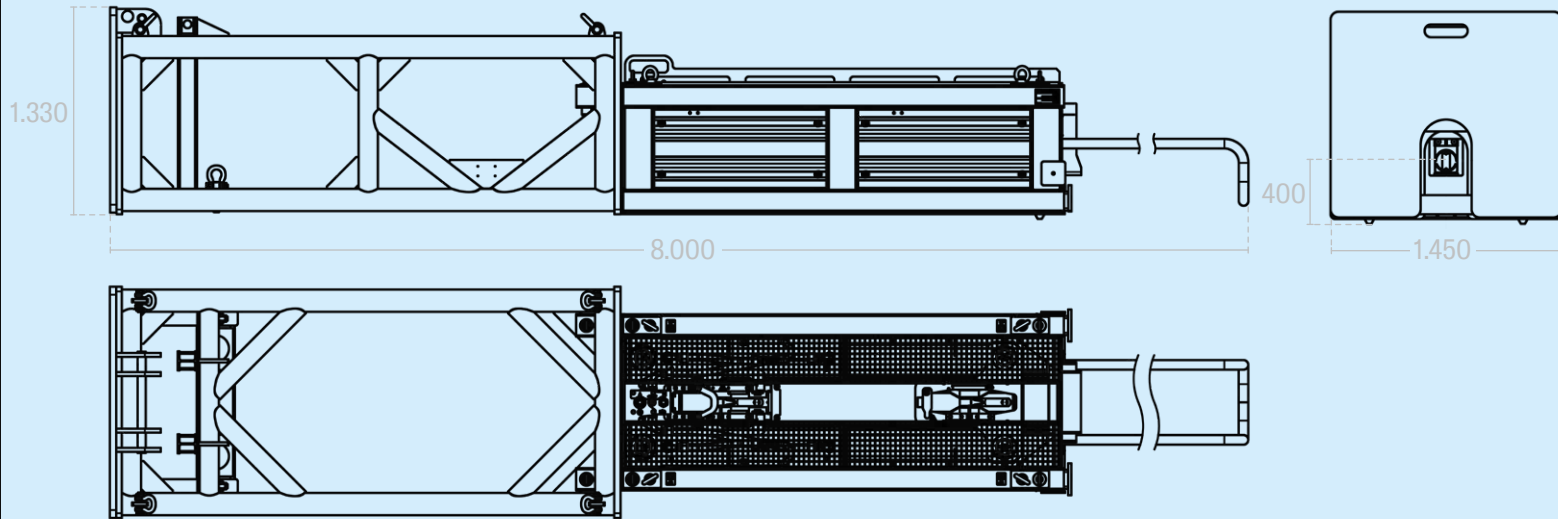
All data without guarantee

GRUNDOBURST 1900G



- Maximal pulling force 1,900 kN (190 t)
- For pressure and gravity pipes ND 250 to ND 800
- Installation lengths up to ca. 300 m length (depending on method)
- Pipe sanitation with Relining up to 1.000 m length
- Inserting the 165 kg burst rods with lifting crane

VARIATIONS



TECHNICAL DATA

GRUNDOBURST 1900G

Dimensions of rig LxWxH	2,850 x 1,150 x 1,000 mm
Weight of rig	3.320kg
Thrust	716 kN
Pulling force at 250 bar	1,900 kN
Pit size LxW	8,000 x 2,000 mm
Axle height	400 mm
Hydr. operating pressure	250 bar
Old pipe Ø	ND 250 - ND 800
For pipe materials	Stoneware, PVC, PE, GG, GGG, AZ, GRP
New pipe Ø	up to OD 900 mm
For pipe materials	PE, PP, Stoneware, B, GGG, GRP, Steel
Bursting rod Ø	120 mm
Bursting rod weight	165 kg
Effective bursting rod length	2,250 mm
Hydraulic units	HP55, HP150

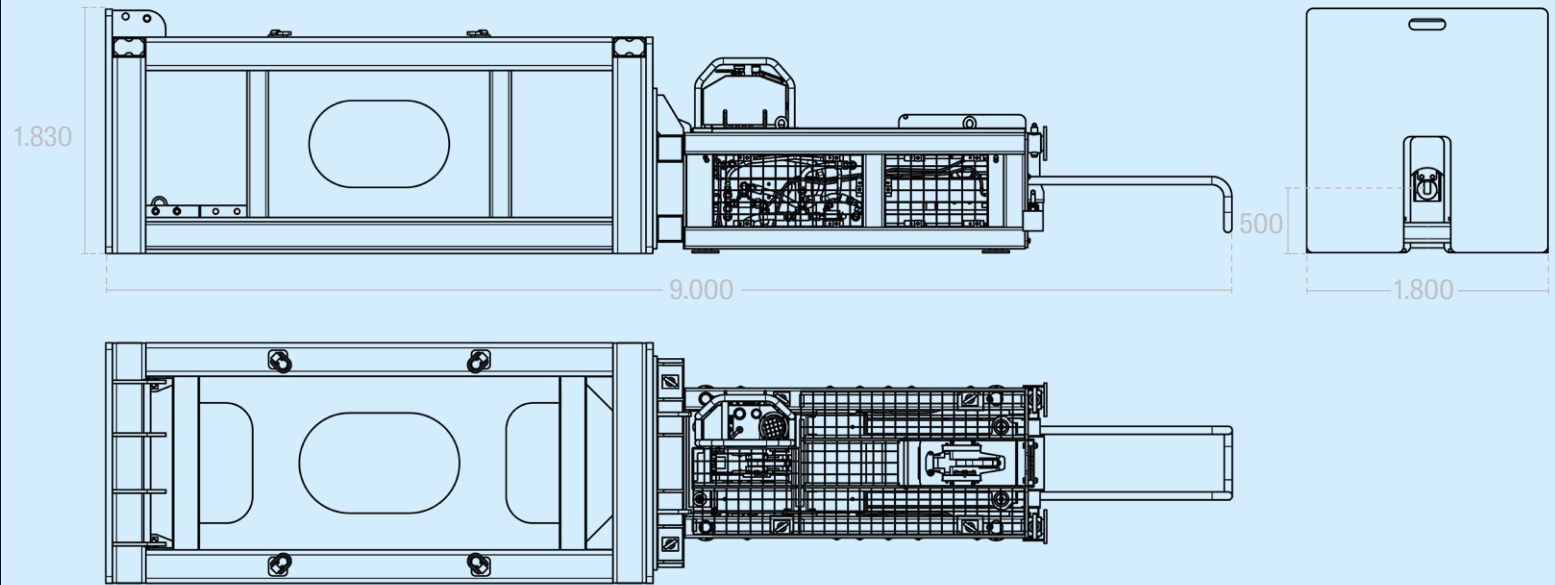
All data without guarantee

GRUNDOBURST 2500G



- Maximal pulling force 2,550 kN or 255 t
- Renewal of old pipes from ND 300 to ND 1,200 mm
- Pipe sanitation with Relining up to ca 1,300 m length possible
- Inserting the 210 kg burst rods with lifting crane

VARIATIONS



TECHNICAL DATA

GRUNDOBURST 2500G

Dimensions of rig LxWxH	2,950 x 1,600 x 1,500 mm
Weight of rig	4,100 kg
Thrust	1,055 kN
Pulling force at 250 bar	2,550 kN
Pit size LxW	9,000 x 2,500 mm
Axle height	500 mm
Hydr. operating pressure	250 bar
Old pipe Ø	ND 300 - ND 1,200 mm
For pipe materials	PVC, PE, stoneware, ductile/grey cast iron, AC, GFRP, steel
New pipe Ø	up to OD 1,200 mm
For pipe materials	PVC, PE, stoneware, grey cast iron, GFRP, steel
Bursting rod Ø	140 mm
Bursting rod weight	210 kg
Effective bursting rod length	2,200 mm
Hydraulic units	HP55, HP150

All data without guarantee

FULL SUPPLY TRACTO HYDRAULIC UNITS



Hydraulic unit HP55

HYDRAULIC UNITS

THE TRACTO HYDRAULIC UNITS

Efficient and reliable drive technology is essential to apply our hydraulically operated NODIG systems with maximum energy according to the power requirements. Thus, the TRACTO-TECHNIK hydraulic units are designed to transfer the required external hydraulic energy for pulling and thrust force, rotation and mixing of the drilling fluid in HDD on target without power losses. Precisely adjusted pre-settings for the GRUNDOPIT mini bore rigs, the GRUNDOBURST static pipe bursting systems, the GRUNDOBORE auger boring system and all TRACTO-TECHNIK mixing units enable fast work.

All TRACTO-TECHNIK hydraulic units contain high-quality components from renowned manufacturers, whose worldwide availability ensures reliable service. Thanks to good accessibility via large maintenance flaps, the units are easy to maintain and appropriate devices facilitate transport. All hydraulic stations are efficient and environmentally friendly. Altogether five kW-classes are available, each suitable for driving several NODIG systems. This allows you maximum flexibility with the lowest possible investment for drive technology.

You can find more information in our special brochure „Hydraulic units“.



Hydraulic unit HP19



Hydraulic unit HP28/HP37



Hydraulic unit HP150 (Image similar)

HYDRAULIC UNITS POWERFUL



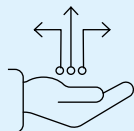
VARIATIONS

TECHNICAL DATA	HP 19	HP 28	HP 37	HP 55	HP 150
Length	1.600 mm	1.660 mm	1.660 mm	1.670 mm	2.530 mm
Width	755 mm	810 mm	810 mm	870 mm	1.400 mm
Height	1.330 mm	1.650 mm	1.650 mm	1.970 mm	2.530 mm
Weight maximum	790 kg	850 kg	860 kg	1.310 kg	3.800 kg
Engine manufacturer	Hatz	Kubota	Kubota	Kubota	Cummins
Engine model	2L41C	D1803-CR	D1803-CR-T	-	B 4.5 Stage V
Emissions standard	Stage V	Stage V	Stage V	Stage V	Stage V
Max. engine output	19 kW	28 kW	37 kW	55 kW	149 kW
Max. engine speed	2.000 U/min	2.700 U/min	2.700 U/min	2.200 U/min	2.175 U/min
Number of cylinders	2 pcs	3 pcs	3 pcs	4 pcs	4 pcs
Displacement	1,716 l	1,826 l	1,826 l	2,8 l	4,5 l
Torque	89 Nm	116 Nm	151 Nm	300 Nm	780 Nm
Diesel tank capacity	60 l	80 l	80 l	110 l	165 l
Hydraulic oil tank capacity	160 l	160 l	160 l	230 l	945 l
Max. delivery rate	90 l/min	120 l/min	120 l/min	200 l/min	425 l/min
Max. pressure	250 bar	250 bar	250 bar	250 bar	250 bar
Max. hydraulic power	14 kW	-	-	35 kW	106 kW
Sound pressure level L_{PA}	-	-	-	65	-
Sound power level L_{WA}	100 dB(A)	100 dB(A)	101 dB(A)	100 dB(A)	101 dB(A)

Subject to change

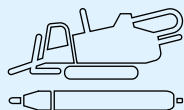
FULL SERVICE FOR TRENCHLESS TECHNOLOGY

Whether its before, during or after the purchase, whether in person or online – we are always at your side with advice and support. Our wide-ranged service is specially tailored to the requirements of trenchless pipe installations, so you can concentrate fully on your core business.



Digital Solutions

Our website offers you the whole world of trenchless technology in digital form. Find out more about our company, our products and their applications. Discover the digital tools for the HDD drilling technology and many other intelligent solutions. Always stay up to date by using the links to our social media channels. Or you can order machines, accessories and spare parts in our eSHOP – easy and conveniently via PC, smartphone or tablet.



Nodig Product Specialists

You can truly rely on our product specialists for all technical questions regarding the function and application of our steerable and non-steerable NODIG-systems. With comprehensive knowledge in each of their special fields, you can be sure they will find the best solution for your trenchless projects and advise you competently on setting up your jobsite.



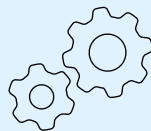
Financing

We offer attractive financing solutions for new and used machines to our customers and sales partners through the TRACTO-TECHNIK Finance GmbH. Be it financing, hire purchase, various types of leasing or insurance: we provide extensive expert advice, individually and personally, in order to find the tailored solution for you. Discretion goes without saying.



Training

Qualified training enables you to apply trenchless technology even more effectively and profitably. Our wide range of training courses for machine operators, construction professionals as well as planners and clients cover all aspects of NODIG technology, including special topics. Certified trainers also instruct you, in theory and practice according to your individual requirements, either at one of our numerous company locations, or directly on your own premises or online, independent of time and place.



Specialised Civil Engineering Service (Application Technology)

The specialised civil engineering service for application technology provides support for all your trenchless construction sites. Our experts demonstrate the steerable and non-steerable NODIG technology live in practical use, show your drilling teams how to use it or actively assist with special projects.



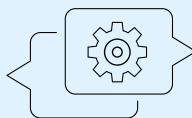
Geoservice

Precise knowledge of the soil is the key to successful trenchless projects. Our Geoservice team provides you with this professional knowledge. Our expertise puts you in a position to master every type of soil. Based on geoscientific maps and existing construction files, we supply information on the soil, which will help you with calculations or supplements.



Used Equipment

If you want to sell a used machine at an attractive price or are looking for the right equipment for your tasks, our full service for used NODIG machines will take the workload off your hands – from appraisal and price determination to professional repair and certification, through to achieving the best price for you via our used machine website with access to one of the world's largest construction machinery platforms.



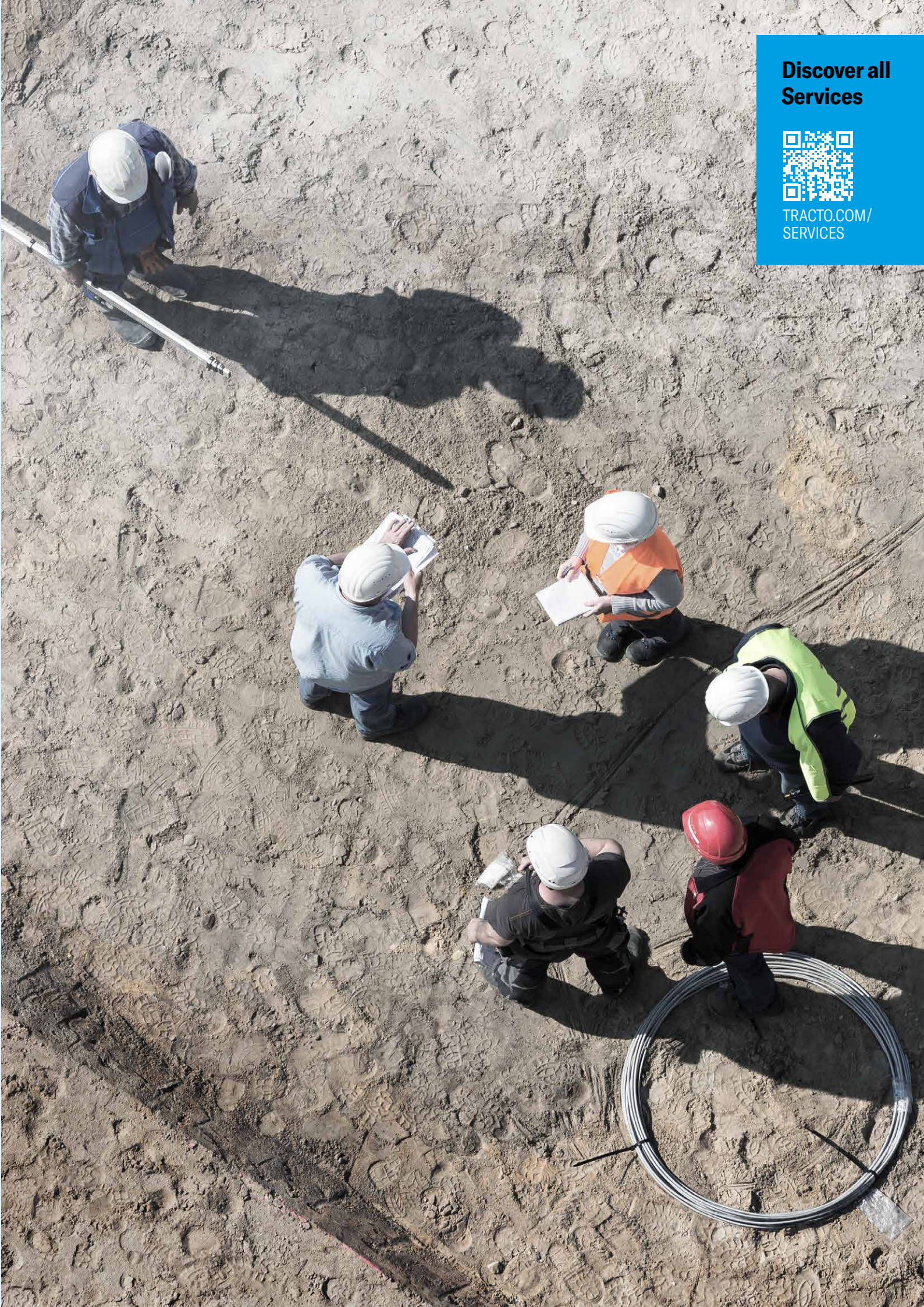
After Sales

Via our worldwide service network we are always there for you, even after the purchase. A total of five TRACTO plants and seven customer centres in Germany, as well as our worldwide sister companies and sales partners guarantee fast supply of spare parts and immediate availability. Our competent service staff offer fast assistance, to ensure you don't lose any time.

Discover all
Services



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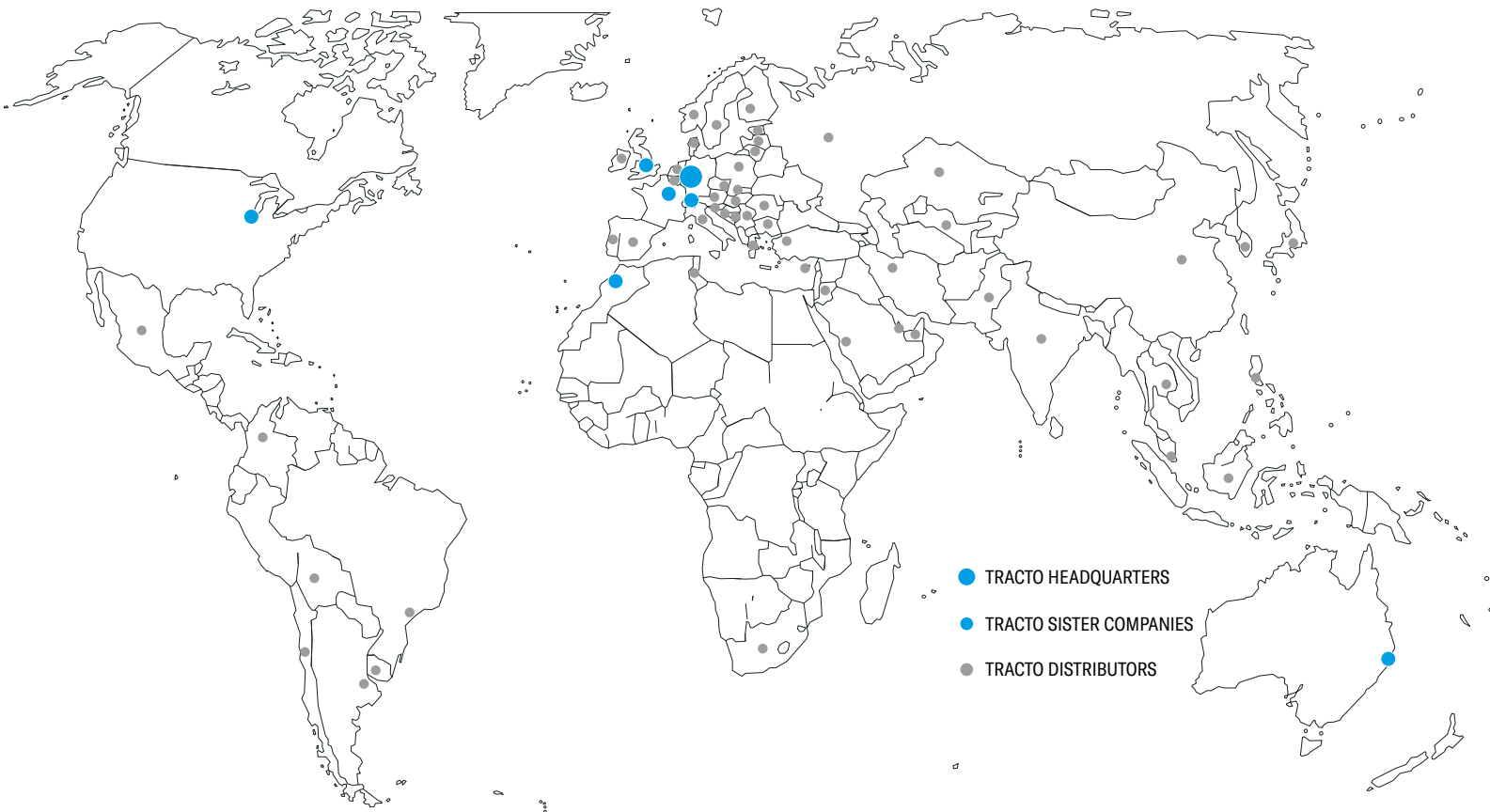


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