

terra
infrastructure



DRILLING TECHNOLOGY

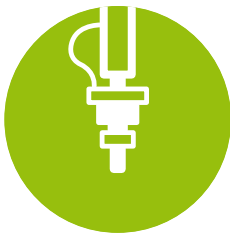
**FOR THE HIGHEST DEMANDS ON
PERFORMANCE, PRECISION, QUALITY AND SAFETY**

FOR THE HIGHEST DEMANDS ON PERFORMANCE, PRECISION, QUALITY AND SAFETY: OUR DRILLING TECHNOLOGY

terra infrastructure GmbH develops, produces and distributes VibroDrills, hydraulic drifters and rotary drives for foundation engineering.

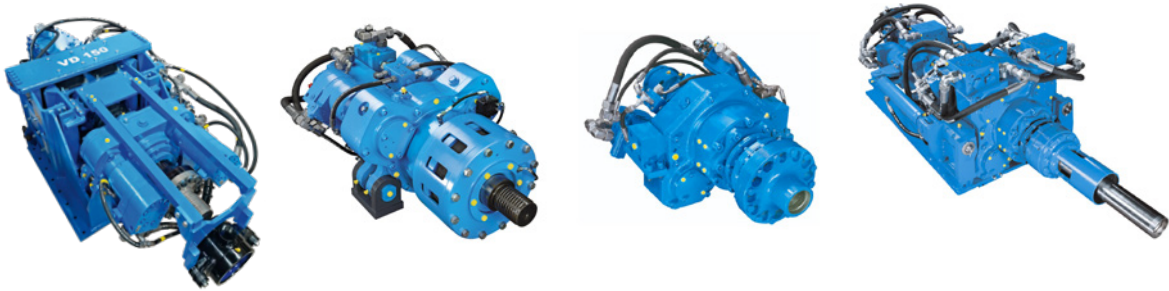
We manufacture our equipment in-house – it meets the highest quality standards.

In the development and production of our products, we can build on decades of experience and are ideally prepared for the challenges of the future thanks to state-of-the-art calculation and development methods. With our VibroDrills, hydraulic drifters and rotary drives, you benefit from state-of-the-art technology, first-class quality and reliable operational readiness.



Drilling technology Procedures and applications

	VibroDrills	Hydraulic drifters	Rotary drives	Double-headed drilling systems
Drilling procedures	Vibratory drilling (rotating-vibrating) (single drill string or overburden drilling)	Rotary percussive drilling (single drill string or overburden drilling)	Rotary drilling (+ single drill string or overburden drilling + DTH-hammer)	Overburden drilling (rotating-rotating or rotating-hammering or rotating-rotating + DTH-hammer)
Applications	Slope stabilisation Back anchorage & foundation stabilisation: selfdrilling anchors (micropiles) Strand anchors Geothermal drilling Geotechnical drilling (e.g. core drilling)	Slope stabilisation Back anchorage & foundation stabilisation: self-drilling anchors (micropiles) Strand anchors	Rotary drive: slope stabilisation Back anchorage & foundation stabilisation Rotary drive + DTH-hammer: geothermal drilling Slope stabilisation Back anchorage	Slope stabilisation Back anchorage & foundation stabilisation: self-drilling anchors (micropiles) & strand anchors Geothermal drilling Geotechnical drilling (e.g. core drilling)
Geology	Rock Mixed soils Water-bearing soil layers Soft & unstable soils	Rock Mixed soils Unstable soils	Rock Mixed soils Water-bearing sail layers Soft soils	Mixed soils Water-bearing soil layers Soft & unstable soils
Portfolio terra infrastructure	VD50, VD100, VD150	HB15, HB20, HB35, HB45, HB50, HB60	HR15, HR20, HR35, HR50, HR60	HR50-HB45, HR60-HB45





VibroDrills – the modern all-rounders

VibroDrills combine the best of both worlds – the drilling and vibration technology. Our vibratory drills reliably deliver high drilling rates in all soil types. Combined with high torque, large drilling diameters and depths can be achieved.



Hydraulic drifters – the powerful classics

Our drill hammers deliver optimum drilling performance in different soil conditions. Various configuration options ensure a high degree of variability. They also impress with their compact design.



Rotary drives – the compact lightweights

terra infrastructure rotary drives score with compact design and low weight combined with high performance. Thanks to a wide range of configuration options you will receive the optimum machine for your application. At the same time, you also benefit from an extremely robust device design.

VibroDrills

Applications

- Micropile drilling
- Overburden drilling
- Self-drilling anchors
- Geothermal drilling
- Geotechnical drilling/core drilling

Advantages

- Can be used in all soil types
- Variable machine configuration
- Easy handling

Hydraulic drifters

Applications

- Micropile drilling
- Overburden drilling
- Self-drilling anchors

Advantages

- Compact design
- Variable machine configuration
- Robust equipment design

Rotary drives

Applications

- Micropile drilling
- Overburden drilling with DTH hammer
- Auger drilling

Advantages

- Compact design
- Low machine weight
- Robust equipment design

Overview VibroDrills

Drilling depth up to 100 m	Strand anchors/ micropiles		Threaded hollow bar drilling		Geothermal drilling	Geotech-nical drilling	Rock drilling	Recommend drilling rig	
	Max. casing diameter with single casing	Overburden drilling max. out-side casing dia-meter	Max. diameter threaded hollow bar	Max. bit diameter	Max. casing diameter	Max. casing diameter	Max. bore hole diameter	Weight [t]	Power of drilling rig [kW]
VD 50	177.8 mm / 7 inch	152.4 mm / 6 inch	101.6 mm / 4 inch	177.8 mm / 7 inch	152.4 mm / 6 inch	152.4 mm / 6 inch	177.8 mm / 7 inch	8 – 12	>101
VD 100	228.6 mm / 9 inch	203.2 mm / 8 inch	152.4 mm / 6 inch	228.6 mm / 9 inch	203.2 mm / 8 inch	203.2 mm / 8 inch	228.6 mm / 9 inch	12 – 16	>127
VD 150	304.8 mm / 12 inch	254 mm / 10 inch	203.2 / 8 inch	304.8 mm / 12 inch	254 mm / 10 inch	254 mm / 10 inch	304.8 mm / 12 inch	16 – 22	>147

Overview hydraulic drifters

Bore hole depth up to 35 m	Strand anchors/ micropiles/ injected drilled piles		Threaded hollow bar drilling		Technical data		Recommended drilling rigs	
Drifter type	Micropile drilling max. casing diameter	Overburden drilling max. outside casing diameter	Max. diameter of hollow bars	Max. bit diameter	Max. impact energy [Nm]	Max. torque [Nm]	Weight [t]	Power of drilling rig [kW]
HB 15	76.2 mm / 3 inch	–	52 mm / 2 inch	76.2 mm / 3 inch	270	2450	10 – 12	>65
HB 20	101.6 mm / 4 inch	–	52 mm / 2 inch	101.6 mm / 4 inch	270	4900	10 – 12	>65
HB 35	152.4 mm / 6 inch	–	76.2 mm / 3 inch	152.4 mm / 6 inch	590	11700	12 – 14	>107
HB 45	177.8 mm / 7 inch	152.4 mm / 6 inch	101.6 mm / 4 inch	177.8 mm / 7 inch	590	16200	12 – 14	>107
HB 50	228.6 mm / 9 inch	203.2 mm / 8 inch	152.4 mm / 6 inch	228.6 mm / 9 inch	840	21600	14 – 16	>107
HB 60	304.8 mm / 12 inch	254 mm / 10 inch	203.2 / 8 inch	304.8 mm / 12 inch	840	42100	14 – 16	>107

The data listed above is to be understood as reference – the project-specific limitations are determined by soil conditions and drilling depth.

Drifters HB

Type	Technical Information	Equipment	Comment
HB 15	Standard motor: 245 ccm (single speed) Optional: 310 ccm (single speed)	Incl. hydr.-percussion unit HBS 20 (50 Hz) Incl. hydr.-damping mechanism RBE 15 / 20	TA 31513 main dimensions
	Switching rotary drive / percussion unit: hydraulic	Incl. flushing ring holder Incl. flushing ring Incl. shank adapter R(H)55 male / left with integrated flushing hole	TA 31514 connecting schema
	Energy chain drilling direction left		TA 31515 service plan
HB 20	Standard motor: 245 ccm (single speed) Optional: 310 ccm (single speed)	Incl. hydr.-percussion unit HBS 20 (50 Hz) Incl. hydr.-damping mechanism RBE 20	TA 31886 main dimensions
	Switching rotary drive / percussion unit: electric 24 V (standard) / 12 V (option) Alternative: manuel, hydraulic	Incl. flushing ring holder Incl. flushing ring Incl. shank adapter R(H)55 male / left with integrated flushing hole	TA 31887 connecting schema
	Energy chain drilling direction left		TA 31888 service plan
HB 35	Standard motor: 677 ccm (two speed) Optional: 344 ccm or 480 ccm	Incl. hydr.-percussion unit HBS 45 Incl. rotary drive Incl. rubber-damping mechanism HB 35 Incl. shank adapter R(H)55 male / left	TA 31744 main dimensions
	Switching rotary drive / percussion unit: electric 24 V (standard) / 12 V (option) Alternative: manuel, hydraulic	Excl. flushing ring holder Excl. flushing ring Excl. flushing shaft	TA 31745 connecting schema
	Energy chain drilling direction left		TA 31746 service plan
HB 35 Rollistar	Standard motor: 110 ccm (single speed)	Incl. hydr.-percussion unit HBS 45 Incl. rotary drive Incl. rubber-damping mechanism HB 35 Incl. shank adapter R(H)55 male / left	TA 32046 main dimensions / service plan
	Switching rotary drive / percussion unit: electric 24 V (standard) / 12 V (option)	Excl. flushing ring holder Excl. flushing ring Excl. flushing shaft	TA 32047 circuit diagram
	Manual switch on the motor (1-3-9) Energy chain drilling direction left		

Drifters HB

Type	Technical Information	Equipment	Comment
HB 45	Standard-motor: 677 ccm (two speed) Optional: 344 ccm (two speed) or 480 ccm (two speed)	Incl. hydr.-percussion unit HBS 45 Incl. rotary drive Incl. rubber-damping mechanism HB 35/45 Incl. shank adapter R(H)55 male / left	TA 32044 technical data
	Switching rotary drive / percussion unit: electric 24 V (standard) / 12 V (option) Alternative: manuel, hydraulic	Excl. flushing ring holder Excl. flushing ring Excl. flushing shaft	
	Energy chain drilling direction left		
HB 50	Standard motor: 677 ccm (two speed) Optional: 344 ccm (two speed) or 480 ccm (two speed)	Incl. hydr.-percussion unit HBS 50/60 Incl. rotary drive Incl. rubber-damping mechanism HB 50/60 Incl. lubricant distribution Incl. shank adapter C112 male / left	TA 32024 technical data
	Switching rotary drive / percussion unit: Electric 24 V (standard) / 12 V (option) Alternative: manuel, hydraulic	Excl. flushing ring holder Excl. flushing ring Excl. flushing shaft	
	Energy chain drilling direction left		
HB 60	Standard-motor: 677 ccm (two speed) Optional: 480 ccm (two speed)	Incl. hydr.-percussion unit HBS 50/60 Incl. rotary drive Incl. rubber-damping mechanism HB 50/60 Incl. lubricant distribution Incl. shank adapter C112 male / left Incl. hammerplate (standard)	TA 32041 technical data
	Switching rotary drive / percussion unit: Electric 24 V (standard) / 12 V (option) Alternative: manuel, hydraulic	Excl. flushing ring holder Excl. flushing ring Excl. flushing shaft	
	Energy chain drilling direction lefts		

Different shank adapter possible, consultation with the customer necessary if required.

Hydraulic-drifters

Type	Technical Information	Equipment	Comment
Damping mechanism (RBE)			
RBE 15 / 20	Retraction force max. 29 kN	Hydraulic	Art.-Nr.: 36008071
RBE 35 / 45	Retraction force max. 85 kN		Art.-Nr.: 36001305
RBE 50 / 60 (Version C112)	Retraction force max. 200 kN		Art.-Nr.: 36001723
RBE 50 / 60 (Version C90)	Retraction force max. 200 kN		Art.-Nr.: 36001727
RBE 35	Retraction force max. 120 kN	Rubber	Art.-Nr.: 36013599
RBE 45	Retraction force max. 120 kN		Art.-Nr.: 36011747
RBE 50 / 60	Retraction force max. 200 kN		Art.-Nr.: 36016361
Accessories for damping mechanism			
Guidance RBE 50 / 60 (rubber)		Extension of the rubberdamping mechanism to use shank. Adapter designed for a hydraulic-damping mechanism.	Art.-Nr.: 36024247
Percussion units HBS			
HBS 15 / 20	Frequency: 50 Hz Impact rate: 3,000 /min Impact energy: 270 Nm Operating pressure min.: 190 bar Oil flow: 90 l/min		TA 31126 main dimensions TA 30799 circuit diagram TA 31127 connecting schema TA 31128 service plan
HBS 35 / 45	Frequency: 20 / 30 / 42 Hz Impact rate: 1,200 / 1,800 / 2,500 min Impact energy: 590 / 400 / 340 Nm Operating pressure min.: 180 bar Oil flow: 90 l/min		TA 30005 main dimensions TA 30151 circuit diagram TA 30959 connecting schema TA 30960 service plan
HBS 50 / 60	Frequency: 20 / 32 / 40 Hz Impact rate: 1,200 / 1,900 / 2,400 min Impact energy: 840 / 540 / 420 Nm Operating pressure min.: 180 bar Oil flow: 90 l/min		TA 30949 main dimensions TA 31251 circuit diagram TA 30424 connecting schema TA 30961 service plan

VibroDrills

Type	Technical Information	Equipment	Comment
VibroDrills VD			
VD 50	Standard motor: 677 ccm Optional: 480 ccm Frequency range: 85/100 (standard)/120 Hz Switching: electric 24 V (standard) / 12 V (option) Energy chain drilling direction left	Incl. vibro unit Incl. rotary drive Incl. rubber-damping mechanism Incl. flushing ring holder Incl. flushing ring d = 100 mm Incl. output flange R(H)55 male / left (optional: R(H)55 male / right) Excl. flushing shaft Excl. control box	TA 32055
VD 100	Standard motor: 677 ccm Optional: 480 ccm Frequency range: 85/100 (Standard)/120 Hz Switching: electric 24 V (standard)/12 V (option) Energy chain drilling direction left	Incl. vibro unit Incl. rotary drive Incl. rubber-damping mechanism Incl. flushing ring holder Incl. flushing ring d = 170 mm (optional: d = 160 mm) Incl. output flange C112 male / left (optional: C112 male / right) Excl. flushing shaft Excl. control box	TA 32017
VD 150	Standard Motor: 677 ccm Frequency range: 85/100 (Standard)/120 Hz Switching: electric 24 V (standard) / 12 V (option) Energy chain drilling direction left	Incl. vibro unit Incl. rotary drive Incl. rubber-damping mechanism Incl. flushing ring holder Incl. flushing ring d = 170 mm (optional: d = 160 mm) Incl. output flange C112 male / left (optional: C112 male / right) Excl. flushing shaft Excl. control box	TA 32032
Accessories for VibroDrills			
Separate control box	For VD 50 up to 150	For displaying frequency, speed, and switching gears via separate control.	TA 31073 circuit diagram TA 31998 overview composition

VIBRODRILL

VD 50

Frequency from 85Hz to 120Hz

VD 50 is a VibroDrill especially developed for:

- Micropile drilling up to a casing diameter of 7 inches (ø177.8 mm)
- Overburden drilling up to an outside casing diameter of 6 inches (ø152.4 mm)
- Threaded hollow bar drilling (self-drilling anchors) up to a bar diameter of 4 inches (ø101.6 mm)
- Geothermal drilling with one-time drill bit up to a casing diameter of 6 inches (ø152.4 mm)
- Geotechnical drilling for soil sampling up to a diameter of 6 inches (ø152.4 mm)

VD 50 has a standard built-in special rubber damping mechanism to avoid vibrations from being transferred into the drill mast.

VD 50 achieves optimum drilling performance in different types of soil by adjusting the static moment; different static moments are available.

VD 50 offers two different high-speed and high-pressure motors (480 cm³, 677 cm³).

VD 50 has a total weight of 496 kg.

Vibro unit	85 Hz	100 Hz	120 Hz
Operating pressure	260 – 340 bar	260 – 340 bar	260 – 340 bar
Oil flow rate	72 l/min	72 l/min	72 l/min
Centrifugal force	95 kN	100 kN	90 kN
Motor size	1 × 14 cm³	1 × 12 cm³	1 × 10 cm³
Casing weight	1,500 kg	1,200 kg	800 kg

Performance data

Drilling performance	up to 1 m per minute
Drilling accuracy	more precise (1–2 % deviation)
Drilling angle	0° – 90° (horizontal – vertical)
Casing diameter max.	Ø177.8 mm
Drilling depth	up to 50 m
Soil conditions	sand, gravel, clay, medium-hard rock

Options

- External flushing head for casings, self-drilling hollow bars and soil sampling hollow bars and soil sampling
- Built-in RPM sensors with external box for speed and frequency indication
- Special drill rods, casings and drill bits Soil sampling drilling tools

Rotary Drives

Motor-Version HP480 ccm																	
Pressure at rotary drive			170 bar			200 bar			240 bar			280 bar					
Gear				2 nd		1 st		2 nd		1 st		2 nd		1 st		2 nd	1 st
Oil flow rate	90	Torque (Nm) Speed (rpm)		1,900 100		2,900 66		2,300 99		3,500 66		2,700 99		4,100 66		3,200 98	4,800 65
	120	Torque (Nm) Speed (rpm)		1,800 136		2,800 91		2,200 135		3,400 90		2,600 90		4,000 90		3,100 135	4,700 90
	170	Torque (Nm) Speed (rpm)		1,500 198		2,600 132		2,000 194		3,200 129		3,800 128		3,800 128		2,900 192	4,500 128

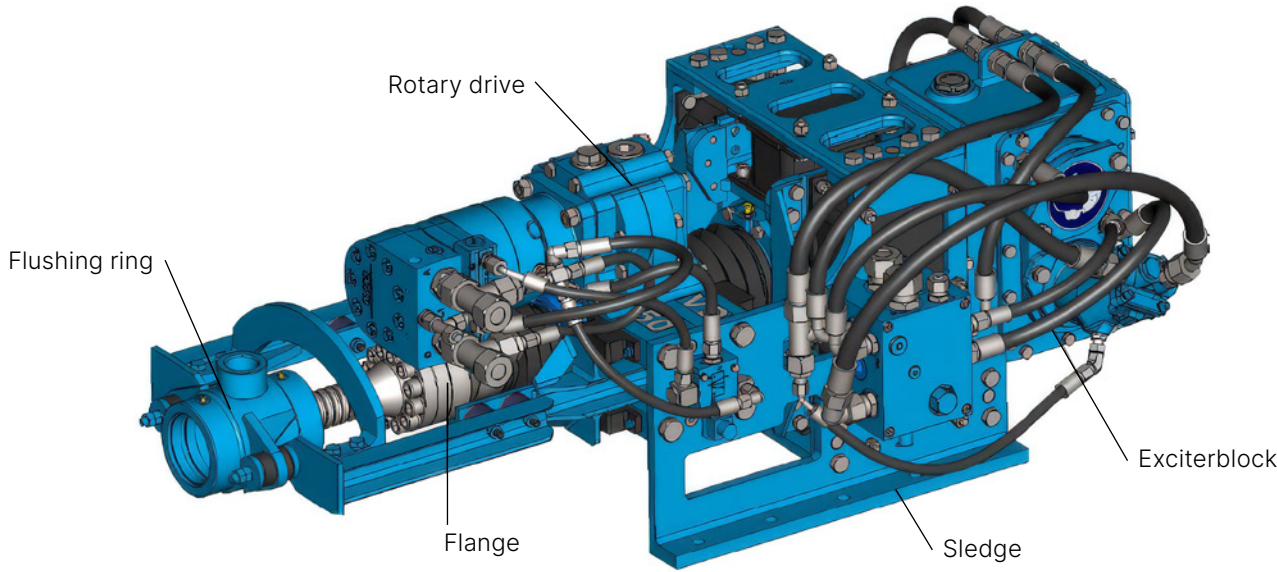
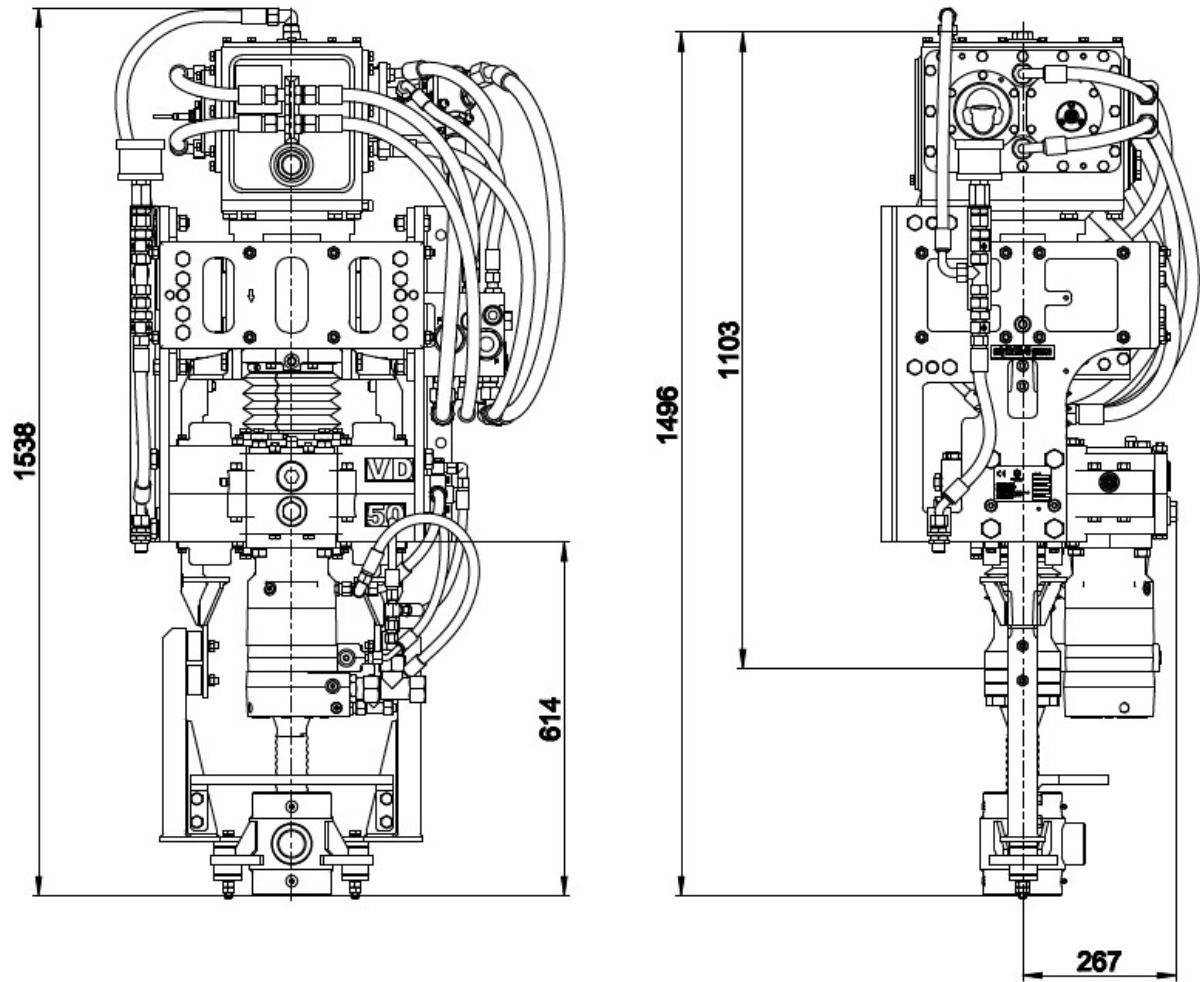
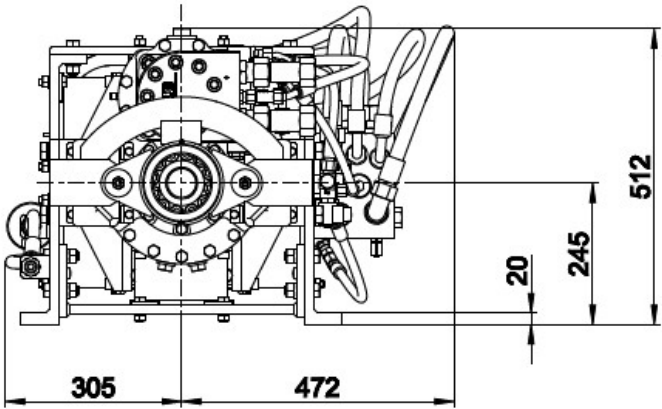
1st gear (low-speed mode), 2nd gear (high-speed mode).

Motor-Version HP677 ccm (standard)																	
Pressure at rotary drive			170 bar			200 bar			240 bar			280 bar					
Gear				2 nd		1 st		2 nd		1 st		2 nd		1 st		2 nd	1 st
Oil flow rate	90	Torque (Nm) Speed (rpm)		2,600 71		4,100 47		3,200 70		4,900 47		3,800 70		5,800 47		4,500 69	6,800 46
	120	Torque (Nm) Speed (rpm)		2,500 96		3,900 64		3,100 96		4,800 64		3,700 96		5,700 64		4,300 96	6,700 64
	170	Torque (Nm) Speed (rpm)		2,200 140		3,600 93		2,800 138		4,500 92		3,400 136		5,400 91		4,000 136	6,400 91

1st gear (low-speed mode), 2nd gear (high-speed mode).

Dimensions

Push down force max. 22,5 kN
Retraction force max. 75 kN



VD 50 drilling hole diameter 201 mm
for pilot holes in the concrete
and gravel soil.



VD 50 drilling hole diameter 200 mm
near for concrete posts.



VD 50 drilling hole diameter 76 mm,
20 m deep for strand anchors.

VIBRODRILL

VD 100

Frequency from 100 Hz to 120 Hz

VD100is a VibroDrill especially developed for:

- Micropile drilling up to a casing diameter of 9 inches (ø 228,6 mm)
- Overburden drilling up to an outside casing diameter of 8 inches (ø 203,2 mm)
- Threaded hollow bar drilling (self-drilling anchors) up to a bar diameter of 6 inches (ø 152,4 mm)
- Geothermal drilling with one-time drill bit up to a casing diameter of 8 inches (ø 203,2 mm)
- Geotechnical drilling for soil sampling up to a diameter of 8 inches (ø 203,2 mm)

VD 100 has a standard built-in special rubber damping mechanism to avoid vibrations from being transferred into the drill mast.

VD 100 achieves optimum drilling performance in different types of soil by adjusting the static moment; different static moments are available.

VD 100 offers two different high-speed and high-pressure motors (480 cm³, 677 cm³).

VD 100 has a total weight of 1,050 kg.

Vibro unit	85 Hz	100 Hz	120 Hz
Operating pressure	260 – 340 bar	260 – 340 bar	260 – 340 bar
Oil flow rate	97 l/min	108 l/min	101 l/min
Centrifugal force	185 kN	200 kN	195 kN
Motor size	1 × 19 cm³	1 × 18 cm³	1 × 14 cm³
Casing weight	2,750 kg	2,050 kg	1,200 kg

Performance data

Drilling performance	up to 1 m per minute
Drilling accuracy	more precise (1–2 % deviation)
Drilling angle	0° – 90° (horizontal – vertical)
Casing diameter max.	Ø228.6 mm
Drilling depth	up to 80 m
Soil conditions	sand, gravel, clay, medium-hard rock

Options

- External flushing head for casings, self-drilling hollow bars and soil sampling
- Built-in RPM sensors with external box for speed and frequency indication
- Special drill rods, casings and drill bits
- Soil sampling drilling tools

Rotary Drives

Motor-Version HP480 ccm																		
Pressure at rotary drive			170 bar				200 bar				240 bar				280 bar			
Gear			4 th	3 rd	2 nd	1 st	4 th	3 rd	2 nd	1 st	4 th	3 rd	2 nd	1 st	4 th	3 rd	2 nd	1 st
Oil flow rate	90	Torque (Nm) Speed (rpm)	2,000 108	3,100 72	4,200 54	6,300 36	2,400 108	3,600 72	5,000 54	7,500 36	2,900 108	4,400 72	6,000 54	9,100 36	3,400 108	5,200 72	7,000 54	10,600 36
	120	Torque (Nm) Speed (rpm)	1,400 144	2,800 96	4,000 72	6,100 48	1,800 143	3,300 96	4,800 72	7,300 48	2,300 143	4,100 95	5,800 71	8,900 48	2,800 142	4,900 95	6,900 95	10,400 47
	170	Torque (Nm) Speed (rpm)	1,200 204	2,400 136	3,800 102	5,900 68	1,600 203	2,900 135	4,600 102	7,000 68	2,100 202	3,700 135	5,600 101	8,600 67	2,700 201	4,500 134	6,600 101	10,200 67

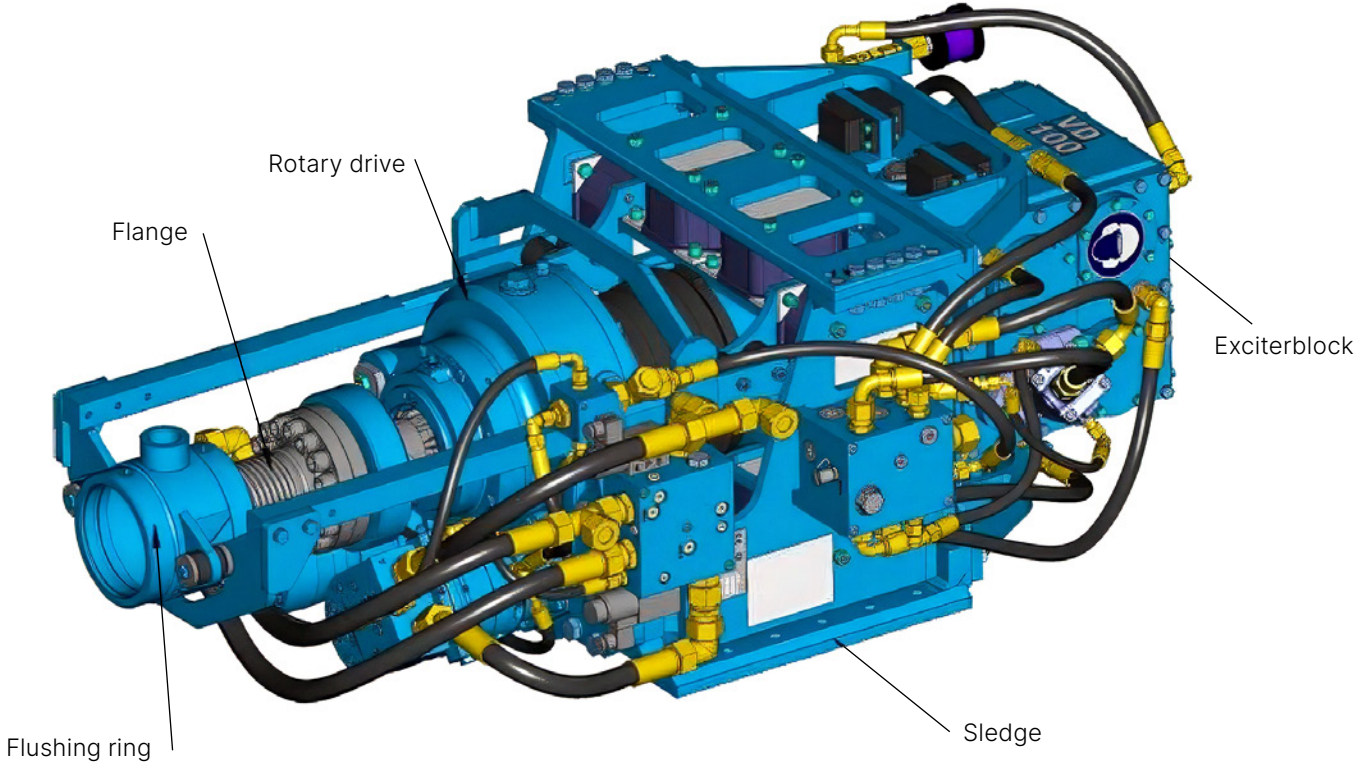
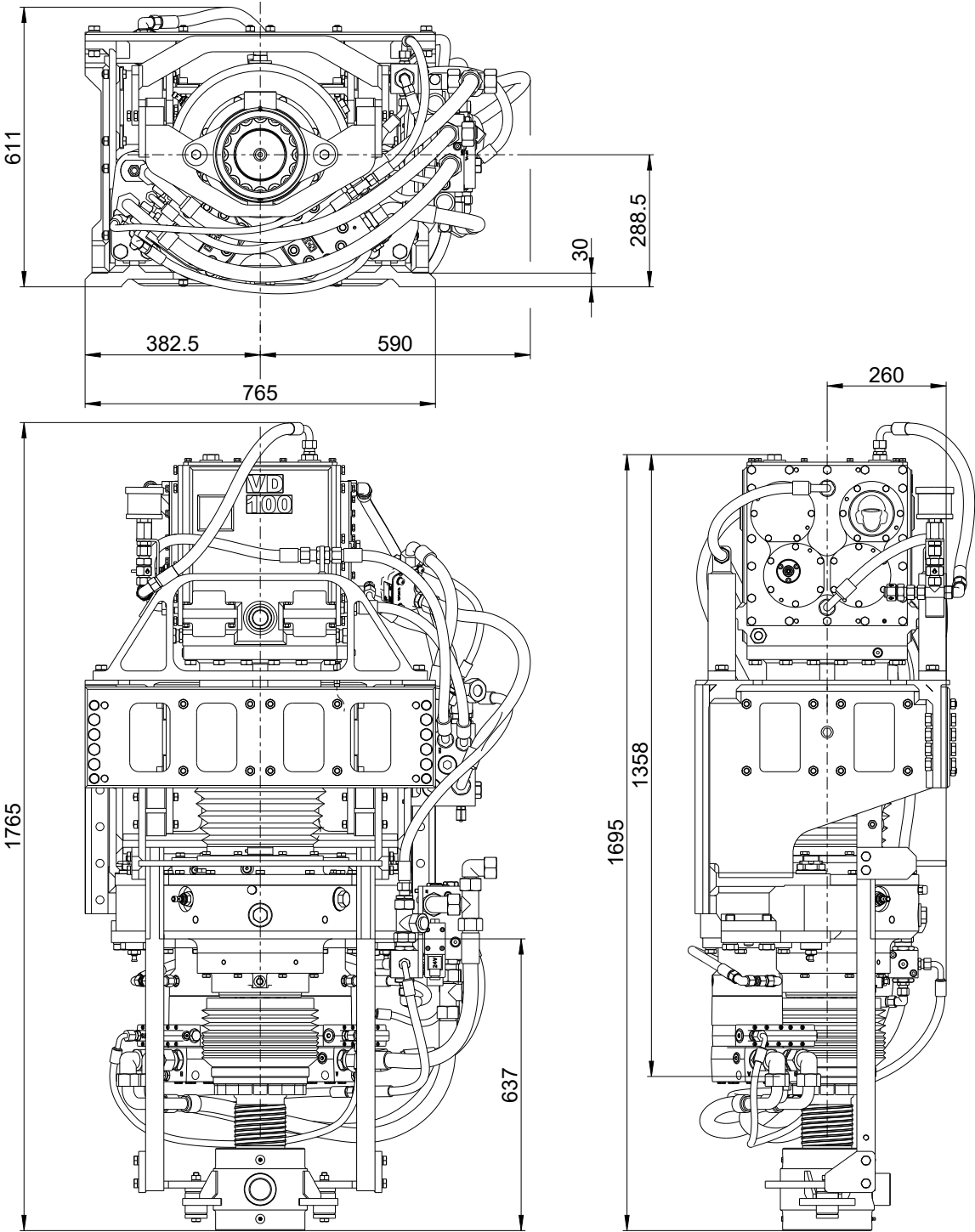
1st gear (parallel mode), 2nd gear (parallel + high-speed mode), 3rd gear (serial mode), 4th gear (serial + high-speed mode).

Motor-Version HP677 ccm (standard)																		
Pressure at rotary drive			170 bar				200 bar				240 bar				280 bar			
Gear			4 th	3 rd	2 nd	1 st	4 th	3 rd	2 nd	1 st	4 th	3 rd	2 nd	1 st	4 th	3 rd	2 nd	1 st
Oil flow rate	90	Torque (Nm) Speed (rpm)	2,800 77	4,300 51	5,900 39	8,900 26	3,300 77	5,100 51	7,000 39	10,600 26	4,100 77	6,200 51	8,500 54	12,800 36	4,800 108	7,300 72	9,900 54	15,000 36
	120	Torque (Nm) Speed (rpm)	2,000 102	3,900 68	5,700 51	8,700 34	2,500 102	4,700 68	6,800 51	10,300 34	3,300 101	5,800 67	8,200 50	12,500 34	4,000 101	6,900 67	9,700 50	14,700 34
	170	Torque (Nm) Speed (rpm)	1,700 145	3,300 97	5,300 72	8,300 48	2,300 144	4,200 96	6,400 102	9,900 48	3,000 143	5,300 96	7,900 71	12,100 48	3,700 143	6,400 95	9,400 71	14,300 48

1st gear (parallel mode), 2nd gear (parallel + high-speed mode), 3rd gear (serial mode), 4th gear (serial + high-speed mode).

Dimensions

Push down force max. 30 kN
Retraction force max. 100 kN



VD 100 drilling hole diameter 114 mm, 13,5 m deep for strand anchors near a hospital.



VD 100 drilling hole diameter 133 mm duplex casing and inner rod, 20 m deep for strand anchors in clay soil.



VD100 drilling in medium-hard rock, 100 m deep, hole diameter 135 mm, flushing with air.

VIBRODRILL

VD 150

Frequency from 85 Hz to 120 Hz

VD 150 is a VibroDrill especially developed for:

- Micropile drilling up to a casing diameter of 12 inches (ø 304,8 mm)
- Overburden drilling up to an outside casing diameter of 10 inches (ø 254 mm)
- Threaded hollow bar drilling (self-drilling anchors) up to a bar diameter of 8 inches (ø 203,2 mm)
- Geothermal drilling with one-time drill bits up to a casing diameter of 10 inches (ø 254 mm)

VD 150 has a standard built-in special rubber damping mechanism to avoid vibrations from being transferred into the drill mast.

VD 150 achieve optimum drilling performance in different types of soil by adjusting the static moment; different static moments are available.

VD 150 offers two high-speed and high-pressure motors (677 cm³).

VD 150 has a total weight of 1,500 kg.

Vibro unit	85 Hz	100 Hz	120 Hz
Operating pressure	260 – 340 bar	260 – 340 bar	260 – 340 bar
Oil flow rate	146 l/min	144 l/min	147 l/min
Centrifugal force	280 kN	300 kN	290 kN
Motor size	2 × 14 cm³	2 × 12 cm³	2 × 10 cm³
Casing weight	4,000 kg	2,900 kg	1,650 kg

Performance data

Drilling performance	up to 1 m per minute
Drilling accuracy	more precise (1–2 % deviation)
Drilling angle	0° – 90° (horizontal – vertical)
Casing diameter max.	Ø304.8 mm
Drilling depth	up to 80 m
Soil conditions	sand, gravel, clay, medium-hard rock

Options

- External flushing head for casings, self-drilling hollow bars and soil sampling
- Built-in RPM sensors with external box for speed and frequency indication
- Special drill rods, casings and drill bits

Rotary Drives

Motor-Version HP667 ccm

Pressure at rotary drive			170 bar				200 bar				240 bar				280 bar				
Gear			4 th	3 th	2 th	1 th	4 th	3 th	2 th	1 th	4 th	3 th	2 th	1 th	4 th	3 th	2 th	1 th	
(lpm)	Oil flow rate	90	Torque (Nm) Speed (rpm)	3,600 55	5,700 37	8,100 28	12,300 18	4,300 55	6,900 37	9,600 28	14,600 18	5,400 55	8,400 37	11,600 27	17,600 18	6,400 55	9,900 36	13,600 27	20,700 18
		120	Torque (Nm) Speed (rpm)	2,700 74	5,400 49	7,900 37	12,000 25	3,500 73	6,500 49	9,400 37	14,300 24	4,500 73	8,000 49	11,400 36	17,300 24	5,500 73	9,600 48	13,400 36	20,400 24
		170	Torque (Nm) Speed (rpm)	2,400 105	4,600 70	7,400 52	11,500 35	3,100 104	5,800 69	8,900 52	13,700 35	13,700 104	4,200 69	7,300 51	10,900 51	5,200 103	8,800 69	12,900 51	19,800 34

1st gear (parallel mode), 2nd gear (parallel + high-speed mode), 3rd gear (serial mode), 4th gear (serial + high-speed mode).



VD 150:
production of stranded anchors,
30 m long.



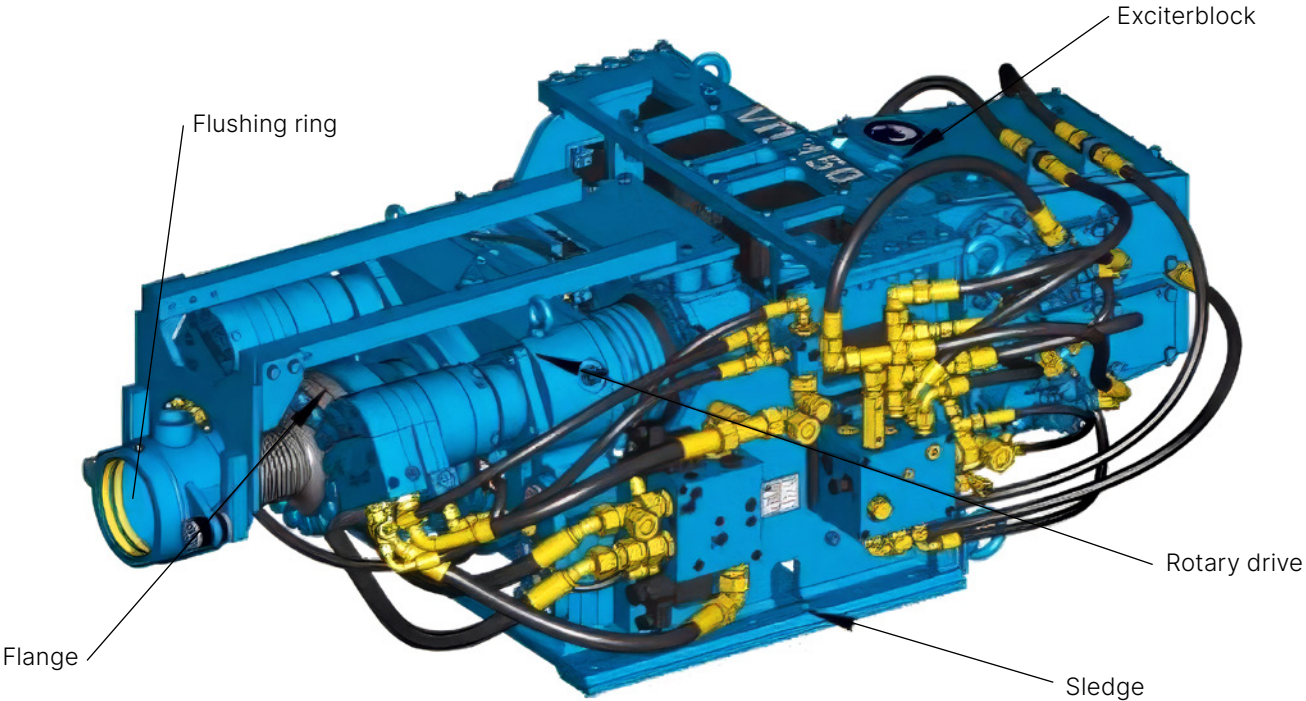
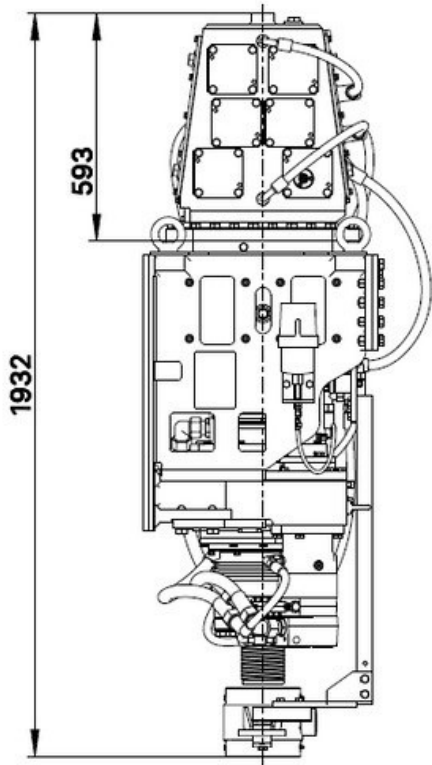
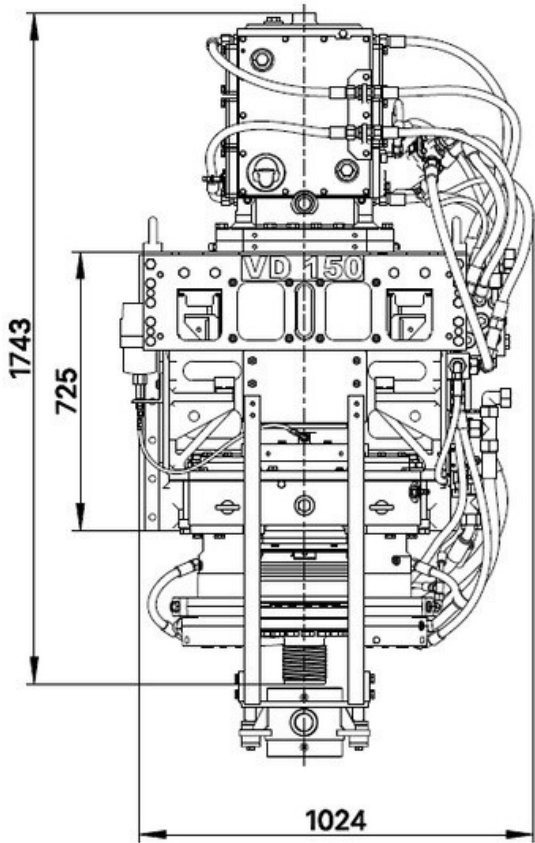
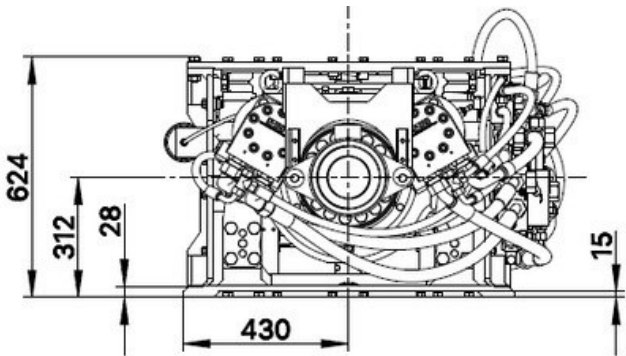
VD150:
retraction of hollow bars,
60 m long.



VD150 drilling 177.8 mm casings
for strand anchors,
60 m long.

Dimensions

Push down force max. 30 kN
Retraction force max. 100 kN



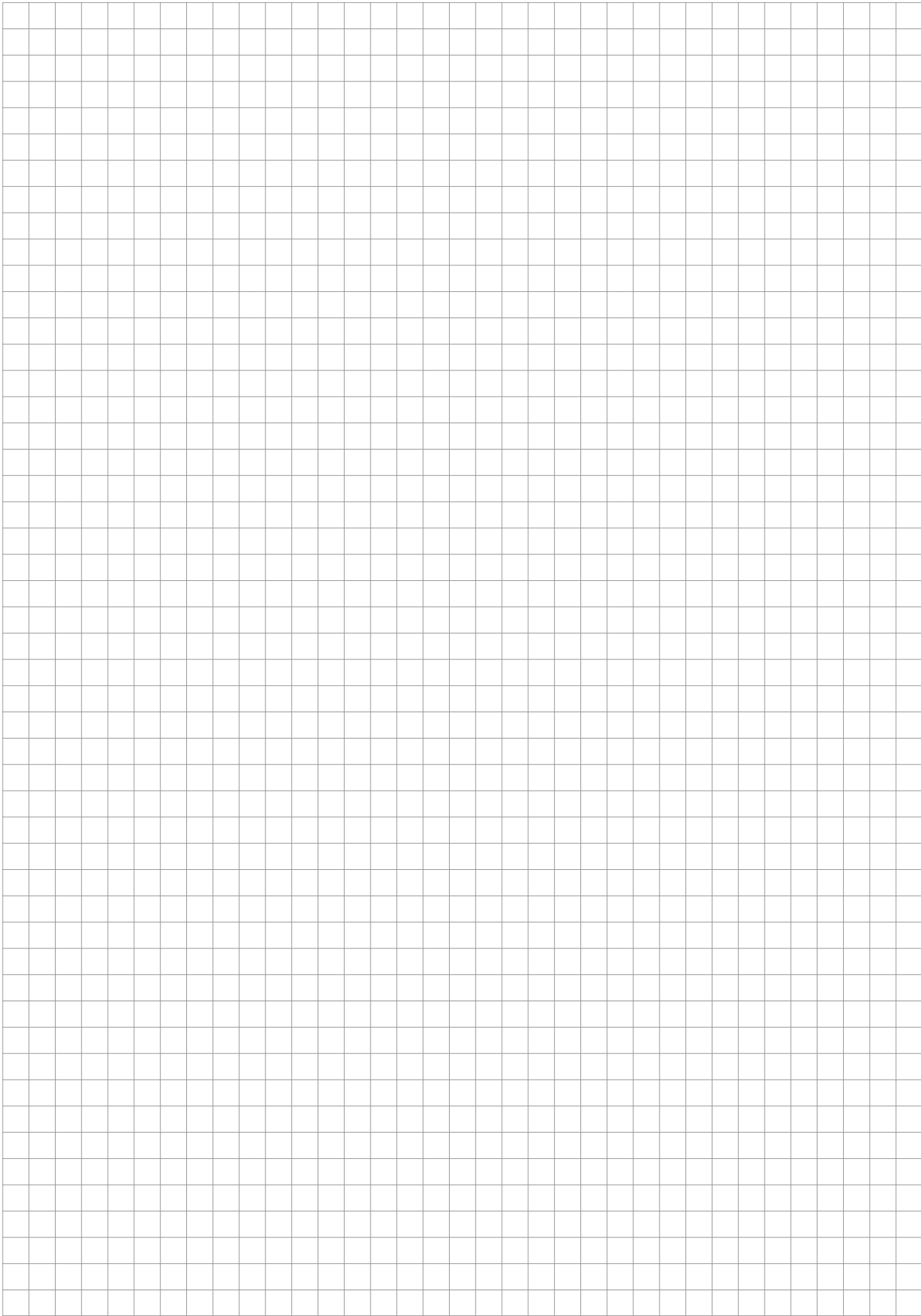
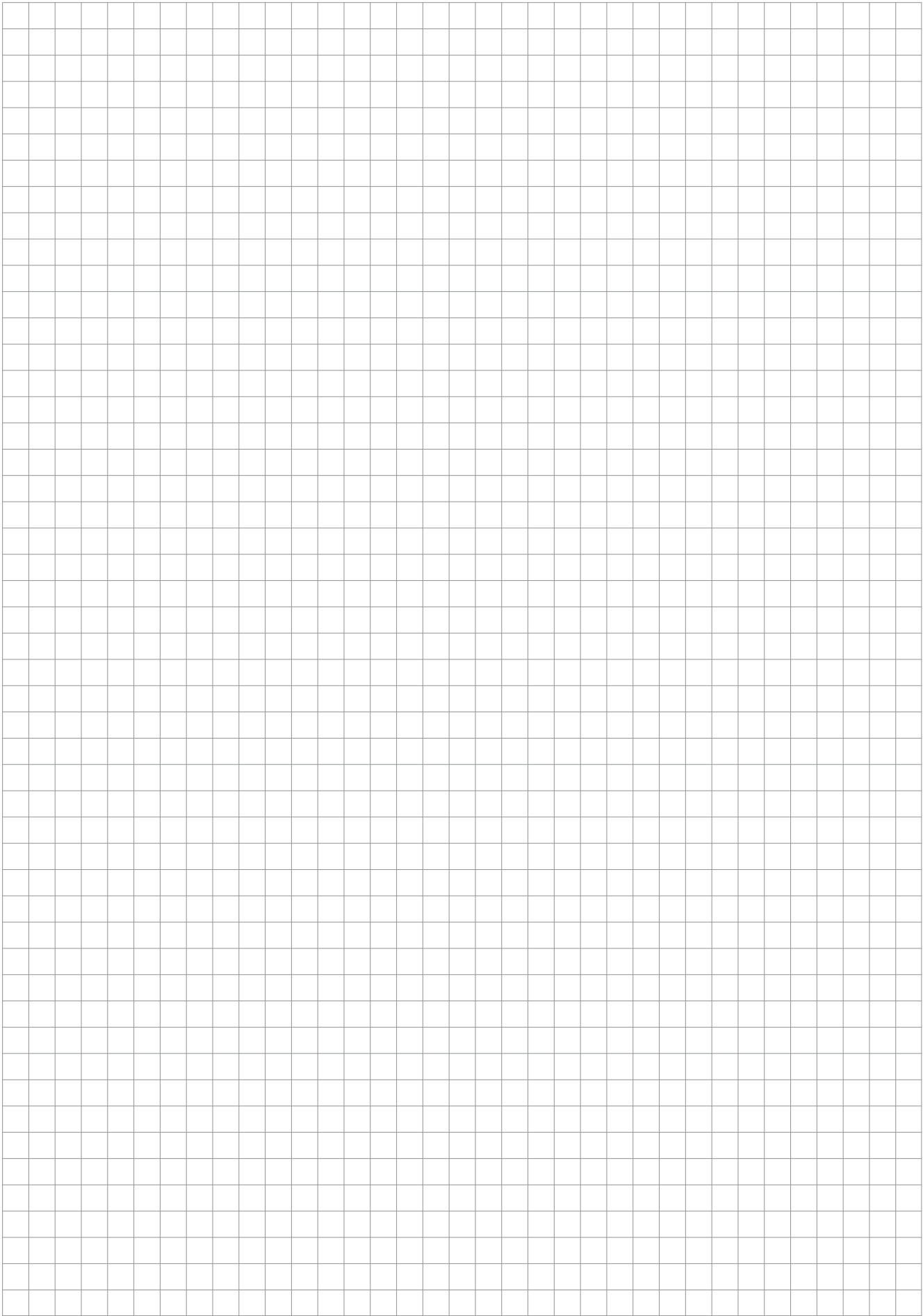
VD 150 drilling hole diameter 177,5 mm,
25 m deep in sand / gravel soil.

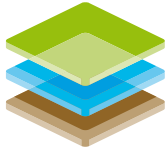


VD 150 drilling hole diameter 152 mm,
duplex with inner rod 30m deep for
strand anchors in different soil layers
from clay to lime and flintstone.



Drilling 73 mm selfdrilling hollow bars
65 m deep into sand and gravel.





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Contact

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