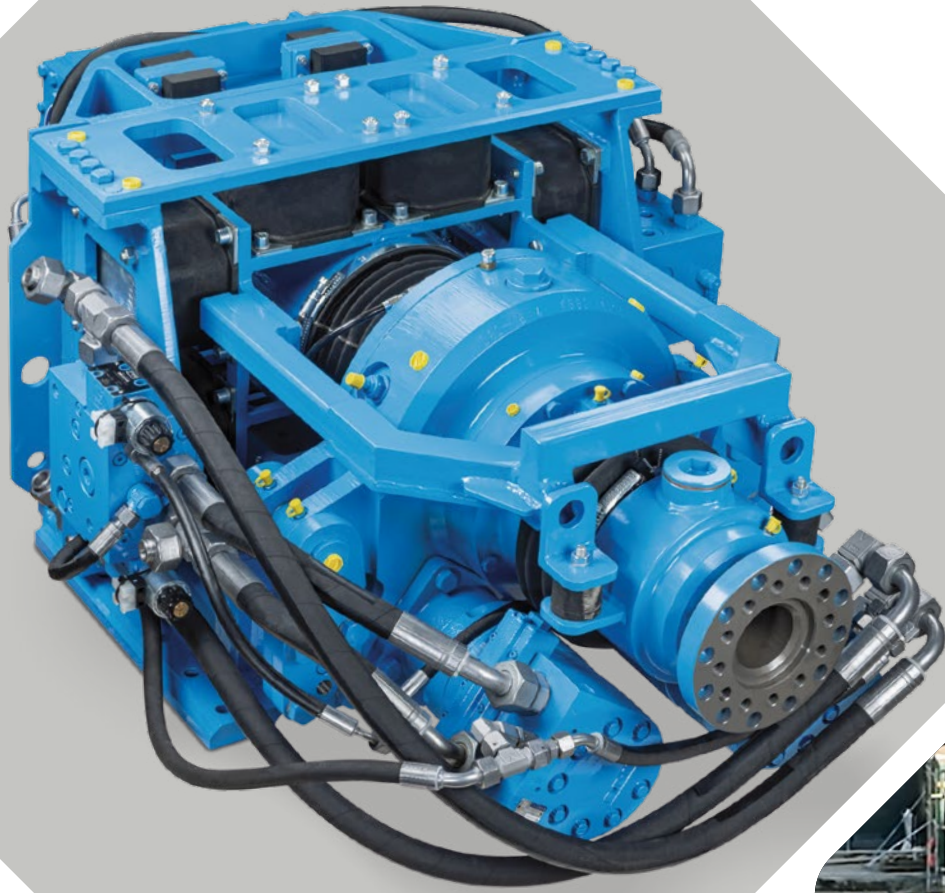


terra  
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safety: efficient and sustainable



VIBRO DRILL  
VD100

# VIBRO DRILL VD100

Frequency from 85 Hz to 120 Hz

VD100 is a VibroDrill especially developed for:

- Micropile drilling up to a casing diameter of 9 inches (ø228,6 mm)
- Overburden drilling up to an outside casing diameter of 8 inches (ø203,2 mm)
- Threaded hollow bar drilling (self-drilling anchors) up to a bar diameter of 6 inches (ø152,4 mm)
- Geothermal drilling with one-time drill bit up to a casing diameter of 8 inches (ø203,2 mm)
- Geotechnical drilling for soil sampling up to a diameter of 8 inches (ø203,2 mm)

VD100 has a standard built-in special rubber damping mechanism to avoid vibrations from being transferred into the drill mast.

VD100 achieves optimum drilling performance in different types of soil by adjusting the static moment; different static moments are available.

VD100 offers two different high-speed and high-pressure motors (480 cm<sup>3</sup>, 677 cm<sup>3</sup>).

VD100 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	114 l/min	137 l/min
Impact rate	5.100 min <sup>-1</sup>	6.000 min <sup>-1</sup>	7.200 min <sup>-1</sup>
Centrifugal force	190 kN	200 kN	195 kN
Motor size	1 × 19 cm <sup>3</sup>	1 × 19 cm <sup>3</sup>	1 × 19 cm <sup>3</sup>
Casing weight	2.800 kg	2.000 kg	1.300 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.	Ø 228,6 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 Drive

**Motor HP480 ccm**

Pressure at rotary drive		170 bar				200 bar				240 bar				280 bar			
Gear		4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>
Oil flow rate (lpm)	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 71	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

1<sup>st</sup> gear (parallel mode), 2<sup>nd</sup> gear (parallel + high-speed mode), 3<sup>rd</sup> gear (serial mode), 4<sup>th</sup> gear (serial + high-speed mode)

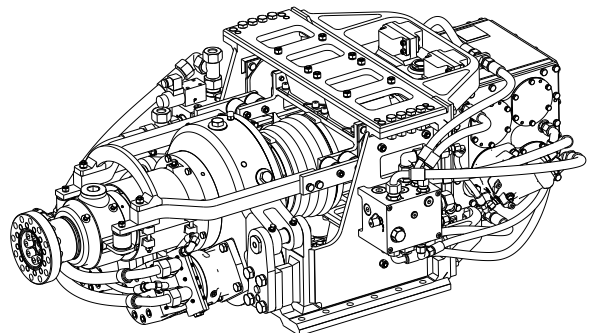
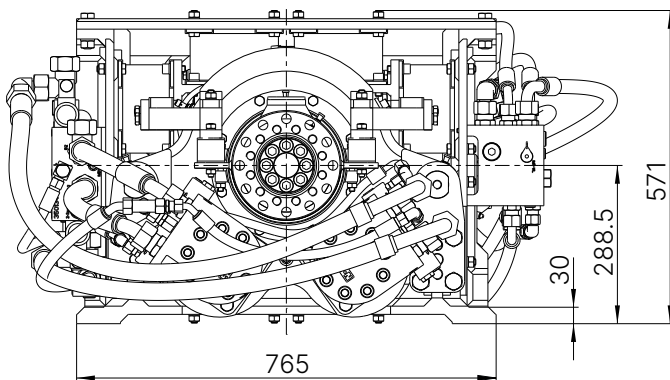
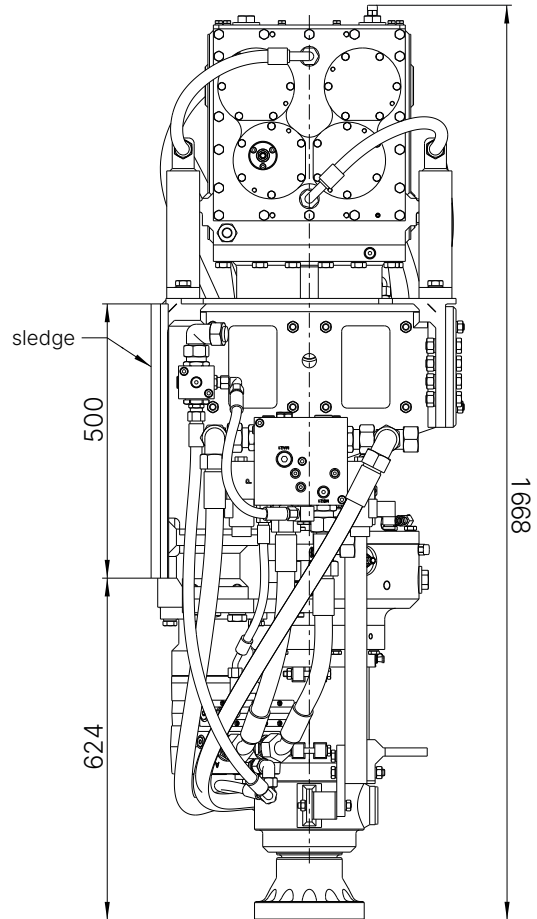
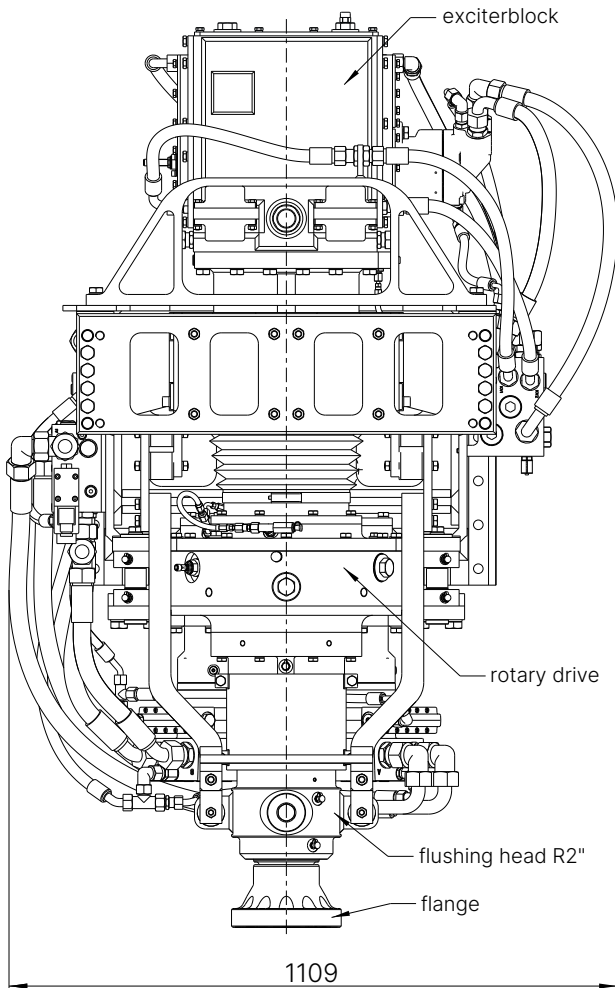
**Motor HP677 ccm (standard)**

Pressure at rotary drive		170 bar				200 bar				240 bar				280 bar			
Gear		4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>
Oil flow rate (lpm)	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 39	12.800 26	4.800 77	7.300 51	9.900 39	15.000 26
	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 72	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

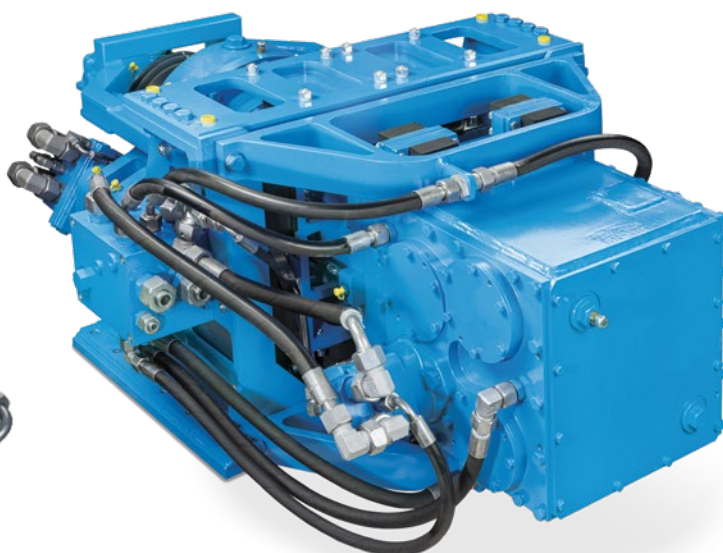
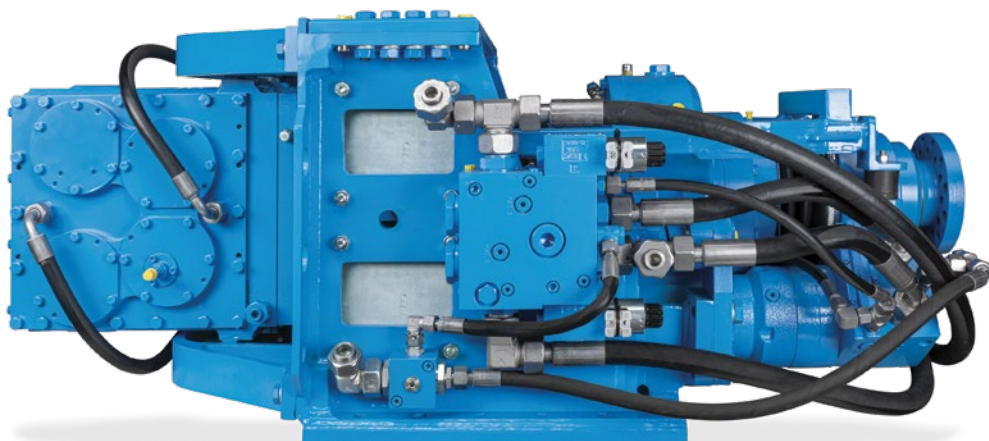
1<sup>st</sup> gear (parallel mode), 2<sup>nd</sup> gear (parallel + high-speed mode), 3<sup>rd</sup> gear (serial mode), 4<sup>th</sup> gear (serial + high-speed mode)

## Dimensions

VD100 with 4 unbalances  
centrifugal force max. 200 kN



push down force max. 30 kN  
retraction force max. 100 kN



VD100 drilling in granite, 25 m deep, hole diameter 120 mm, flushing with air



VD100 drilling in sand and gravel, 65 m deep, hole diameter 190 mm, flushing with water



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

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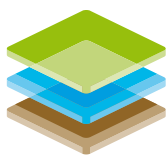
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