

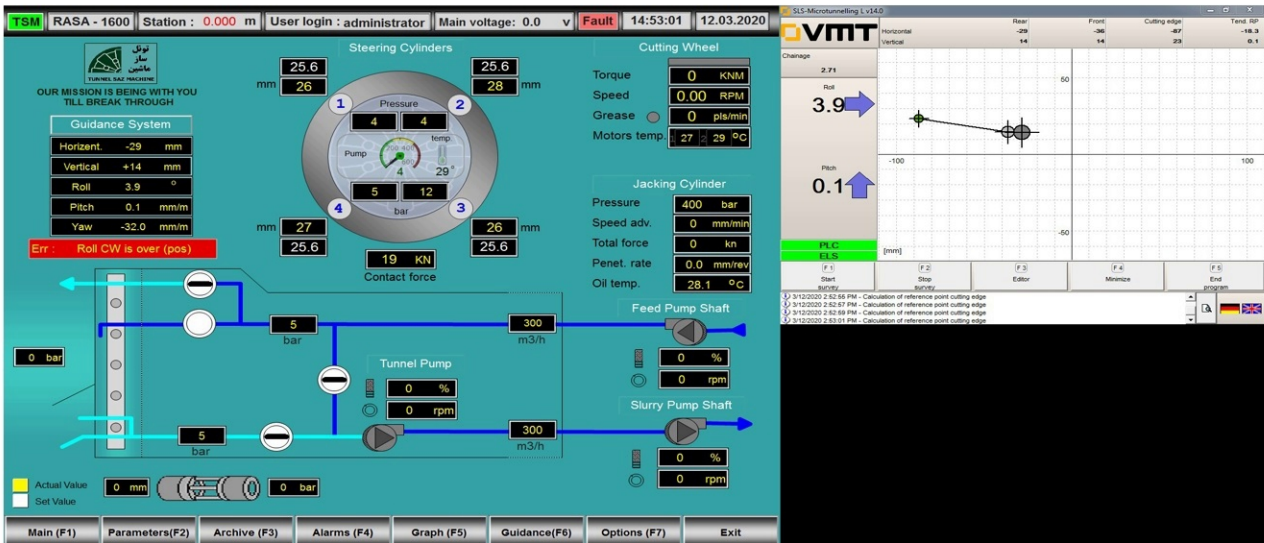
RAZA 1600 Micro Tunnel Boring Machine

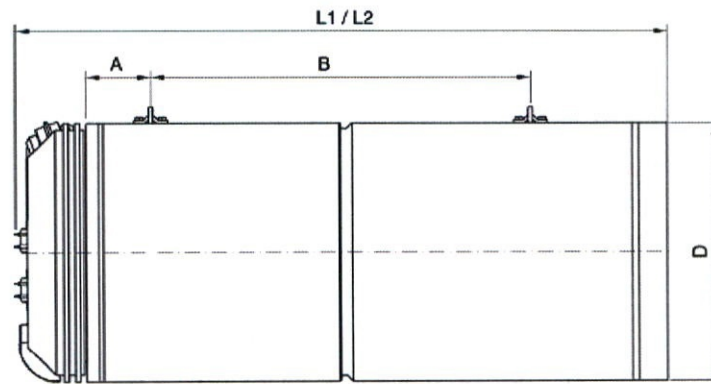


TECHNICAL FIGURES

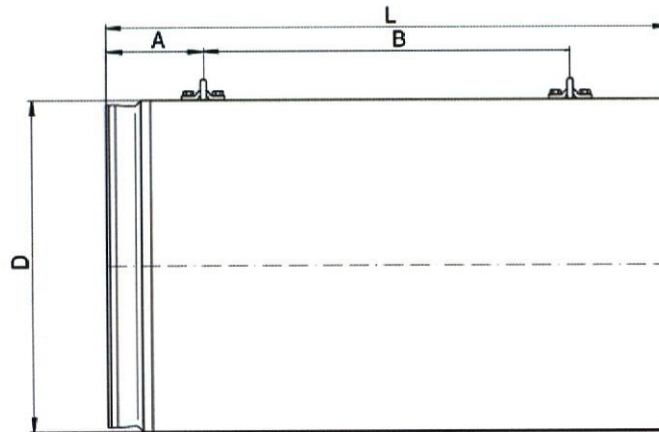
GENERAL	
Manufacturer	RAZA
Type	1600 AE
Name	RAZA 1600 AE
Year of built	2003
Outside diameter [OD] pipe Standard	2030 mm
Steering cylinders	4

TBM	
Power Installed	90 kW (2*45kW)
Constant torque	230 kNm
Turnrate	0 - 5 RPM
Turn direction	Left / right



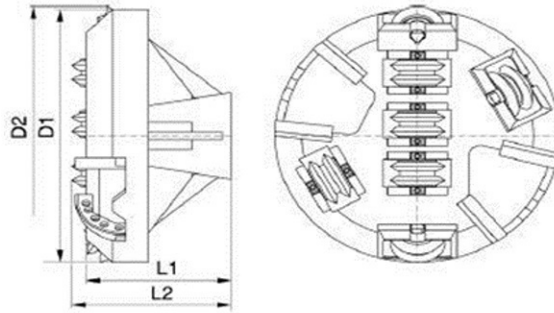


Diameter [D]	2020	mm
Length without Cutting wheel [L1]	3416	mm
Length with Cutting wheel [L2]	3915	mm
Distance [A]	278	mm
Distance [B]	2761	mm



machine can 2

Diameter	2000	mm
Length [L]	2847	mm
Distance [A]	565	mm
Distance [B]	1930	mm
Weight	3950	kg



Cutting Wheel

Diameter [D]	2045	mm
Cutting Diameter [D1]	2010	mm
Length Inclusive Tools [L2]	881.5	mm
Length Inclusive Tools [L1]	966.5	mm
Weight	5753	kg

Control Container

PLC	Siemens S7 400	
Drive Power of Hydraulic Pump (Jacking Cylinders)	22+30	KW
Electrical Power (Hydraulic cooling)	0.75	KW
Electrical Power (Air cooling)	1.7	KW
Power of Frequency Converter Feed Pump	75	KW
Power of Frequency Converter Slurry Pump Tunnel	75	KW
Power of Frequency Converter Slurry Pump Shaft	75	KW
Capacity of Hydraulic Tank	2500	liters



Listing of full scope of supply:

Item	Subject	#
1	DN 1600, Machine Can 1	1
2	DN 1600, Machine Can 2	1
3	Control Container	1
4	Tailskin Ring OD1940	1
5	Push Ring ID1800	1
6	Jacking frame 850t	1
7	Pushring DN 1600	1
8	Rockwheel DN 1600 80 -100 Mpa	1
9	Laser Target ELS-2	1
10	Laser GEO VL-50	1
11	Laser pole 1500 / 1600	1
12	Laser pole 1800 / 2000	1
13	Feed pump 55 KW /400V	1
14	Slurry pump 75 KW/400V	2
15	Slurry lines DN 125	200
16	Water Tank	1

