

NORDIC GEO SUPPORT

Self Drilling Anchors

FOR

TUNNELLING AND GEOTECHNICAL SYSTEMS





Technical Data	Unit	R25	R32L	R32N	R32S	R38	R51L	R51N	T76N	T76S	T103N	T103S
Outer diameter	mm	25	32	32	32	38	51	51	76	76	103	103
Average inner diameter	mm	14	22	18.5	15	19	34	28	46.6	40	75	53
Average cross sectional area	mm ²	314	341	471	547	768	926	1217	2468	2800	3450	5200
Ultimate load ^{*1}	kN	200	220	280	360	500	550	800	1600	1900	2380	3550
Yield load ^{*1}	kN	150	180	230	280	400	450	630	1200	1500	1900	2680
Average tensile strength ^{*1}	N/mm ²	690	650	650	690	650	610	750	840	790	690	680
Average yield strength ^{*1}	N/mm ²	520	530	530	540	520	485	590	630	630	560	520
Weight	kg/m	2.1	2.9	3.5	4.2	6.0	7.5	9.4	18.5	22.6	27.3	42.0
Thread standard	–	ISO 102008					ISO 1720			Internal standard		
Steel grade	–	Acc. to. EN 10083-1										
Delivery lengths	m	1, 2, 3, 4, 6							1, 2, 3, 4		2, 3, 4	

^{*1} The ultimate load and yield load capacity are measured values. The tensile-/yield strengths are calculated as average values.



NordicGeo SDA - SYSTEM

Advantages and Characteristics

the main advantages of the NGS Anchor bar are:

Fast drilling and placing due to drilling, anchor installation and grouting in a single operation

Neither separate anchor installation nor removal of casing and drill rods

Similar installation methods for all ground conditions

Choice of drill bits for different ground conditions

The hollow core not only serves for flushing with air or water during drilling, but also for grouting the anchor tendon

Flexibility in length by using couplers

Ability to work with small drill rigs without casing in restricted headroom conditions

Accommodation of needs for enhanced protection against corrosion upon request

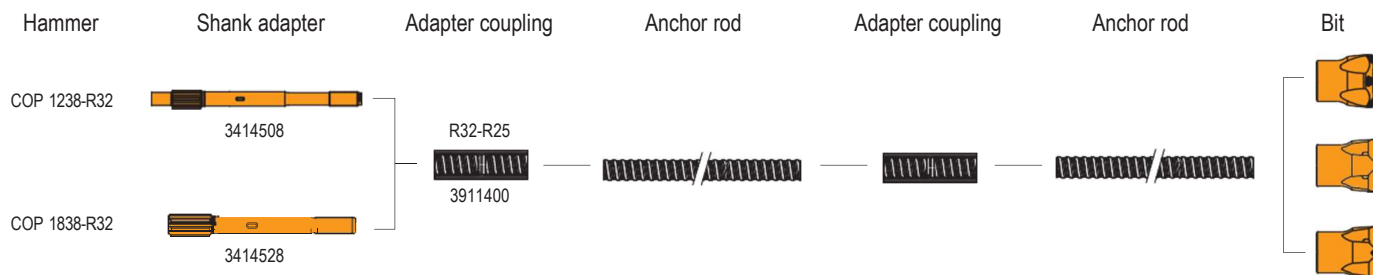
The accepted high standard of quality control from production stage to installation of the NGS Anchors ensures consistent quality

The NGS Anchor have an advantage in all applications where normally cased drilling is required.

The NGS Anchor System allows for anchoring in both cohesive and non-cohesive ground, even under limited space conditions.

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NordicGeo Self-Drilling Anchor R25



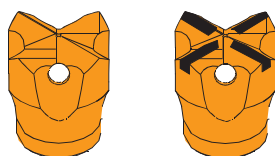
Rod R25	Outside diameter	Average internal diameter	Aver. eff. cross sectional area	Ultimate load capacity	Yield load capacity	Average tensile strength R_m	Average yield strength $R_{p0.2}$	Weight
	mm	mm	mm ²	kN	kN	N/mm ²	N/mm ²	kg/m
R25	25	14.0	314	200	150	690	520	2.10
The way of order								
	For 1 m long	For 2 m long	For 3 m long	For 4 m long	For 6 m long			
R25	48012806010	48012806020	48012806030	48012806040	48012806060			

Coupling R25	Diameter	Length	Catalogue no.	Weight
	mm	mm		kg
	36.5	150	48013911113	0.67
Nut R25	Key size	Length	Catalogue no.	Weight
	mm	mm		kg
	41	41	48019201491	0.28
Spherical nut R25	41	41	48019201601	0.33

Anchor plate R25	Dimension	Hole diameter	Catalogue no.	Weight
	mm	mm		kg
	150x150x8	27.0	48019201481	1.36
	200x200x10	27.0	48019201482	2.99

Bits with thread R25

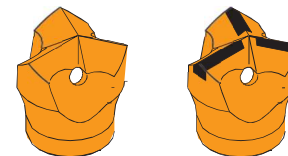
Description	Catalogue no.	Weight
		kg
Cross bit $\varnothing 42$ without sintered carbide insert	48015942010	0.21
Cross bit $\varnothing 42$ with sintered carbide insert	48015942022	0.27
Cross bit $\varnothing 51$ without sintered carbide insert	48015951020	0.33
Cross bit $\varnothing 51$ with sintered carbide insert	48015951032	0.41
Button bit $\varnothing 42$ without sintered carbide insert	48015942030	0.23
Button bit $\varnothing 42$ with sintered carbide insert	48015942032	0.29
Button bit $\varnothing 51$ without sintered carbide insert	48015951040	0.38
Button bit $\varnothing 51$ with sintered carbide insert	48015951052	0.41
Asymmetrical bit $\varnothing 51$ without sintered carbide insert	480159510801	0.37
Asymmetrical bit $\varnothing 51$ with sintered carbide insert	480159510821	0.40



Cross bit

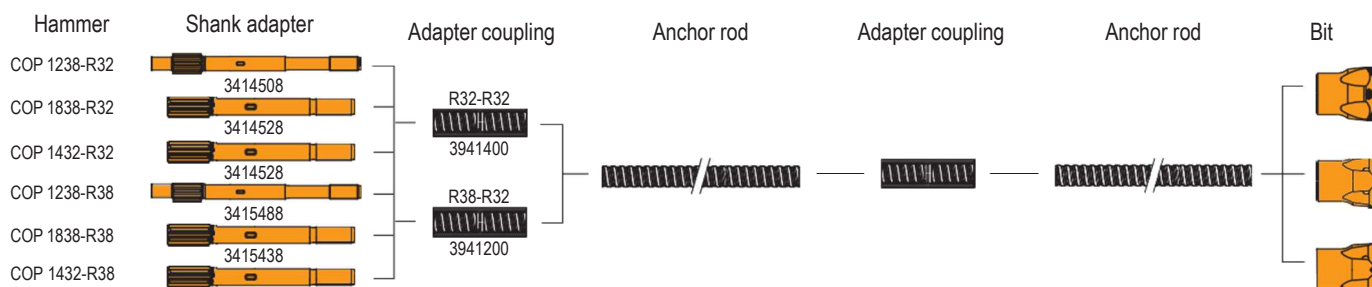


Button bit



Asymmetrical bit

NordicGeo Self-Drilling Anchor R32L, R32N, R32S



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Rod R32	Outside diameter	Average internal diameter	Aver. eff. cross sectional area	Ultimate load capacity	Yield load capacity	Average tensile strength R_m	Average yield strength $R_{p0.2}$	Weight
	mm	mm	mm ²	kN	kN	N/mm ²	N/mm ²	kg/m
R32/Ø22 L	32	22	341	220	180	650	530	2.90
R32/Ø18.5 N	32	18.5	471	280	230	650	530	3.50
R32/Ø15 S	32	15	547	360	280	690	540	4.20

The way of order

	For 1 m long	For 2 m long	For 3 m long	For 4 m long	For 6 m long
R32/Ø22 L	48012807310	48012807320	48012807330	48012807340	48012807360
R32/Ø18.5 N	48012806110	48012806120	48012806130	48012806140	48012806160
R32/Ø15 S	48012806210	48012806220	48012806230	48012806240	48012806260

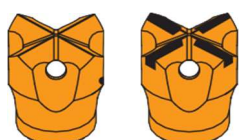
Coupling R32	Diameter	Length	Catalogue no.	Weight
	mm	mm		kg
	42.5	160	48013941413	0.85

Nut R32	Key size	Length	Catalogue no.	Weight
	mm	mm		kg
	46	45	48019201492	0.35

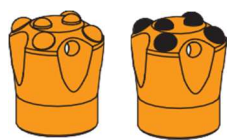
Spherical nut R32	Dimension	Hole diameter	Catalogue no.	Weight
	mm	mm		kg
	150x150x8	34.5	48019201483	1.37
	200x200x10	34.5	48019201484	2.97

Bits with thread R32

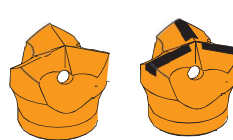
Description	Catalogue no.	Weight
		kg
Cross bit Ø45 without sintered carbide insert	48015945010	0.28
Cross bit Ø45 with sintered carbide insert	48015945012	0.29
Cross bit Ø51 without sintered carbide insert	480159510201	0.31
Cross bit Ø51 with sintered carbide insert	480159510321	0.39
Cross bit Ø64 without sintered carbide insert	48015964010	0.60
Cross bit Ø64 with sintered carbide insert	48015964012	0.64
Cross bit Ø76 without sintered carbide insert	48015976010	0.80
Cross bit Ø76 with sintered carbide insert	48015976022	0.84
Button bit Ø51 without sintered carbide insert	480159510401	0.36
Button bit Ø51 with sintered carbide insert	480159510521	0.39
Button bit Ø76 without sintered carbide insert	480159760601	0.70
Button bit Ø76 with sintered carbide insert	480159760651	0.75
Asymmetrical bit Ø51 without sintered carbide insert	48015951080	0.35
Asymmetrical bit Ø51 with sintered carbide insert	48015951082	0.38
Asymmetrical bit Ø76 without sintered carbide insert	48015976070	0.73
Asymmetrical bit Ø76 with sintered carbide insert	48015976072	0.80
Clay bit Ø76 / Clay bit Ø95	48015976120 / 48015995030	0.80 / 1.25
Clay bit Ø110 / Clay bit Ø115	480159110301 / 480159115301	1.37 / 1.40
Clay bit Ø150	480159150306	1.50



Cross bit



Button bit

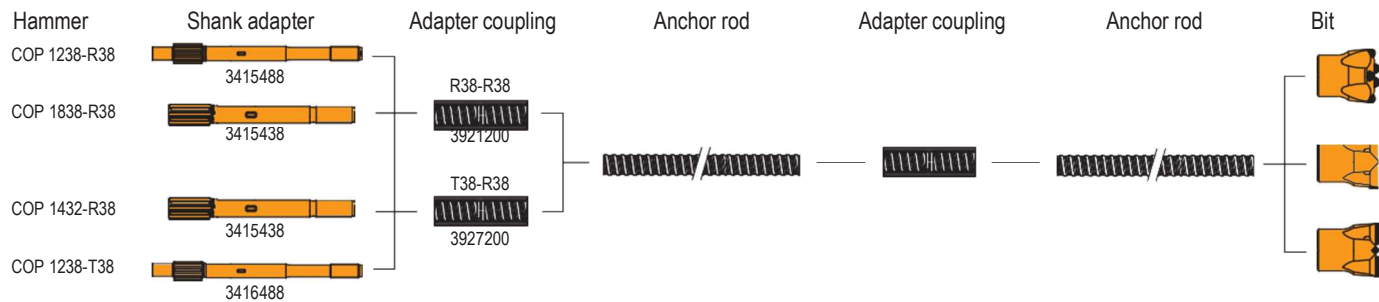


Asymmetrical bit



Clay bit

NordicGeo Self-Drilling Anchor R38



Rod R38	Outside diameter	Average internal diameter	Aver. eff. cross sectional area	Ultimate load capacity	Yield load capacity	Average tensile strength R_m	Average yield strength $R_{p0.2}$	Weight
	mm	mm	mm ²	kN	kN	N/mm ²	N/mm ²	kg/m
R38	38	19	768	500	400	650	520	6.00

The way of order

R38	For 1 m long	For 2 m long	For 3 m long	For 4 m long	For 6 m long
	48012806310	48012806320	48012806330	48012806340	48012806360

Coupling R38	Diameter	Length	Catalogue no.	Weight
	mm	mm		kg
	51,0	180	48013921213	1.76

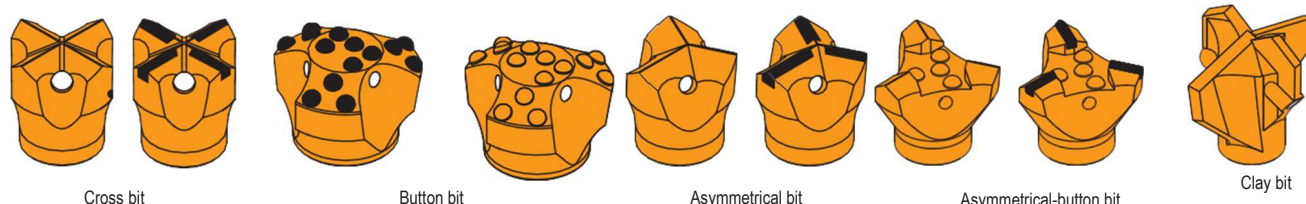
Nut R38	Key size	Length	Catalogue no.	Weight
	mm	mm		kg
	50	49	48019201493	0.40

Spherical nut R38	Dimension	Hole diameter	Catalogue no.	Weight
	mm	mm		kg
	200x200x10	40.0	48019201489	2.95
	200x200x12	40.0	48019201485	3.60

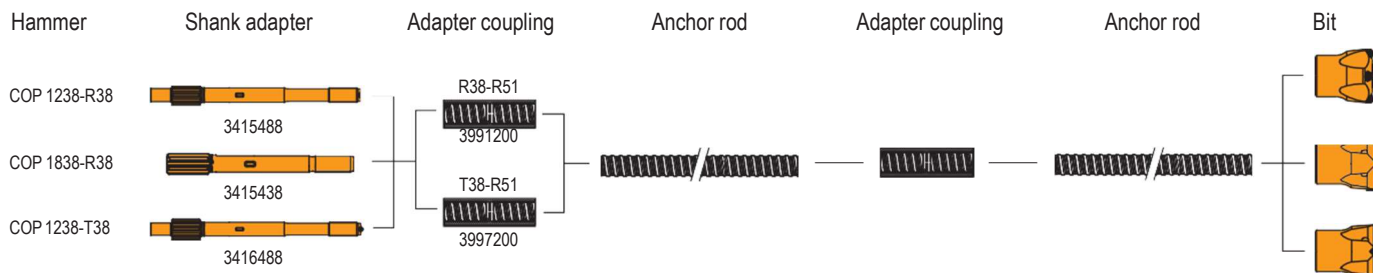
Anchor plate R38	Dimension	Hole diameter	Catalogue no.	Weight
	mm	mm		kg
	200x200x10	40.0	48019201489	2.95
	200x200x12	40.0	48019201485	3.60

Bits with thread R38

Description	Catalogue no.	Weight
		kg
Cross bit Ø64 without sintered carbide insert	480159640101	0.60
Cross bit Ø64 with sintered carbide insert	480159640121	0.65
Cross bit Ø76 without sintered carbide insert	480159760101	0.85
Cross bit Ø76 with sintered carbide insert	480159760221	0.90
Cross bit Ø90 without sintered carbide insert	480159900301	1.34
Cross bit Ø90 with sintered carbide insert	480159900321	1.40
Button bit Ø76 without sintered carbide insert	48015976060	0.68
Button bit Ø76 with sintered carbide insert	48015976065	0.73
Button bit Ø90 without sintered carbide insert	480159900401	1.42
Button bit Ø90 with sintered carbide insert	480159900451	1.48
Button bit Ø115 without sintered carbide insert	48015915010	1.80
Button bit Ø115 with sintered carbide insert	48015915015	1.94
Asymmetrical bit Ø76 without sintered carbide insert	480159760701	0.71
Asymmetrical bit Ø76 with sintered carbide insert	480159760721	0.78
Asymmetrical-button bit Ø76 without sintered carbide insert	48015976090	0.88
Asymmetrical-button bit Ø76 with sintered carbide insert	48015976095	1.00
Asymmetrical-button bit Ø90 without sintered carbide insert	480159900801	1.10
Asymmetrical-button bit Ø90 with sintered carbide insert	480159900851	1.20
Clay bit Ø94	48015994030	1.00
Clay bit Ø110 / Clay bit Ø115	480159110302 / 80159115302	1.20 / 1.25
Clay bit Ø130 / Clay bit Ø150	480159130304 / 80159150301	1.40 / 1.70



NordicGeo Self-Drilling Anchor R51



Rod R51	Outside diameter	Average internal diameter	Aver. eff. cross sectional area	Ultimate load capacity	Yield load capacity	Average tensile strength R_m	Average yield strength $R_{p0.2}$	Weight
	mm	mm	mm ²	kN	kN	N/mm ²	N/mm ²	kg/m
R51/Ø28 N	51	28	1217	800	630	750	590	9.50
R51/Ø34 L	51	34	926	550	450	610	485	7.50

The way of order

	For 1 m long	For 2 m long	For 3 m long	For 4 m long	For 6 m long
R51/Ø33 N	48012806510	48012806520	48012806530	48012806540	48012806560
R51/Ø33 L	48012806410	48012806420	48012806430	48012806440	48012806460

Coupling R51	Diameter	Length	Catalogue no.	Weight
	mm	mm		kg
	63	200	48013991913	1.90

Nut R51	Key size	Length	Catalogue no.	Weight
	mm	mm		kg
	75	70	48019201494	1.55

Spherical nut R51	Key size	Length	Catalogue no.	Weight
	mm	mm		kg
	75	70	48019201604	1.73

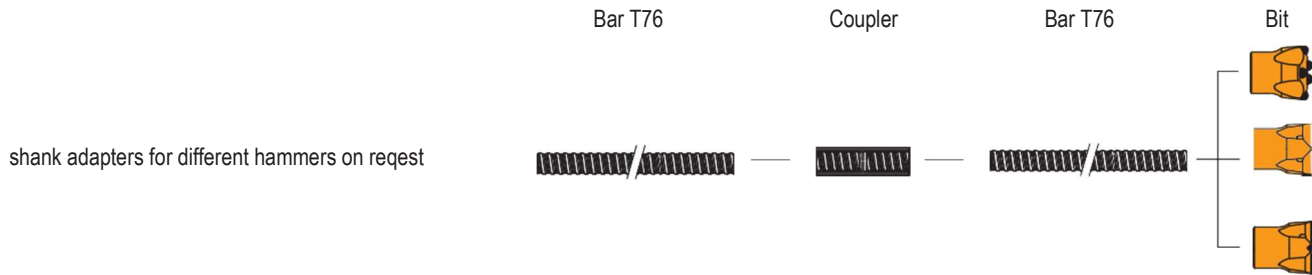
Anchor plate R51	Dimension	Hole diameter	Catalogue no.	Weight
	mm	mm		kg
	200x200x12	52.5	48019201486	3.60

Bits with thread R51

Description	Catalogue no.	Weight
		kg
Cross bit Ø76 without sintered carbide insert	480159760104	0.77
Cross bit Ø76 with sintered carbide insert	480159760124	0.80
Cross bit Ø90 without sintered carbide insert	480159900302	1.46
Cross bit Ø90 with sintered carbide insert	480159900322	1.50
Button bit Ø76 without sintered carbide insert	480159760604	0.66
Button bit Ø76 with sintered carbide insert	480159760654	0.71
Button bit Ø90 without sintered carbide insert	480159900402	1.35
Button bit Ø90 with sintered carbide insert	480159900452	1.42
Button bit Ø100 without sintered carbide insert	48015900060	1.50
Button bit Ø100 with sintered carbide insert	48015900065	1.64
Button bit drop center Ø115 without sintered carbide insert	480159150101	1.86
Button bit drop center Ø115 with sintered carbide insert	480159150151	2.00
Asymmetrical-Button bit Ø90 without sintered carbide insert	480159900802	1.27
Asymmetrical-Button bit Ø90 with sintered carbide insert	480159900852	1.38
Cross-Button bit Ø115 without sintered carbide insert	48015911500	1.88
Cross-Button bit Ø115 with sintered carbide insert	48015911505	1.95
Clay bit Ø110	480159110304	1.85
Clay bit Ø130	480159130303	1.92
Clay bit Ø150	480159150302	2.20
Clay bit Ø175	480159175301	2.40



NordicGeo Self-Drilling Anchor T76



Rod T76	Outside diameter	Average internal diameter	Aver. eff. cross sectional area	Ultimate load capacity	Yield load capacity	Average tensile strength Rm	Average yield strength Rp0,2	Weight
	mm	mm	mm ²	kN	kN	N/mm ²	N/mm ²	kg/m
T76N	76	51	2468	1600	1200	840	630	19.50
T76S	76	45	2800	1900	1500	760	600	22.60

The way of order					
	For 1 m long	For 2 m long	For 3 m long	For 4 m long	For 6 m long
T76N	48012806910	48012806920	48012806930	48012806940	48012806960
T76S	48012807110	48012807120	48012807130	48012807140	48012807160

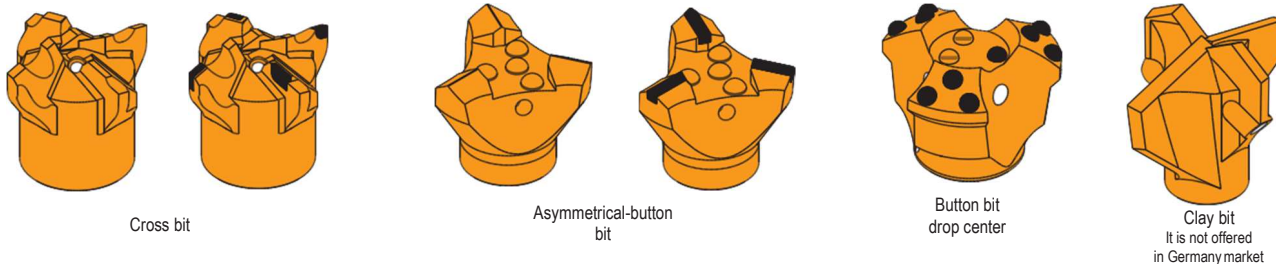
Coupling T76	Diameter	Length	Catalogue no.	Weight
	mm	mm		kg
	95	220	48013999916	4.50

Nut T76	Key size	Length	Catalogue no.	Weight
	mm	mm		kg
	100	80	48019201498	2.30

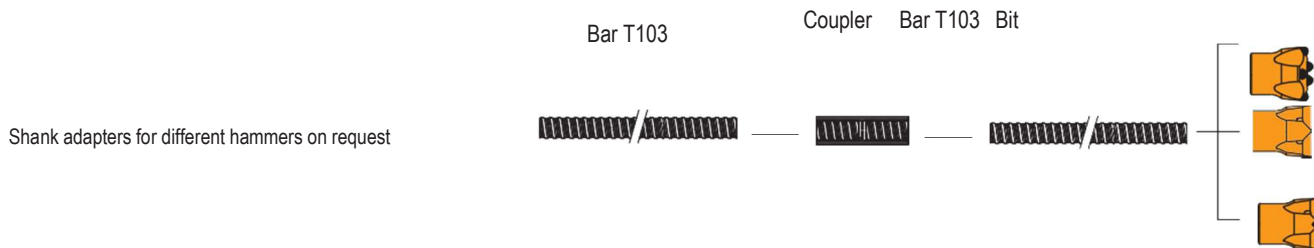
Anchor plate T76	Dimension	Hole diameter	Part no.	Weight
	mm	mm		kg
	250x250x40	80	48019201682	18.00
	250x250x60	80	48019201681	27.00

Bits with thread T76		
Description	Catalogue no.	Weight
		kg
Cross bit Ø130 without sintered carbide inserts	48015913060	3.05
Cross bit Ø130 with sintered carbide inserts	48015913064	3.20
Cross bit Ø200 without sintered carbide inserts	48015920040	6.90
Cross bit Ø200 with sintered carbide inserts	48015920044	7.10
Asymmetrical-button bit Ø130 without sintered carbide insert	480159130701	4.40
Asymmetrical-button bit Ø130 with sintered carbide insert	480159130751	4.50
Button bit drop center Ø130 without sintered carbide insert	48015913080	4.05
Button bit drop center Ø130 with sintered carbide insert	48015913085	4.40
Clay bit Ø130	48015913030	3.50
Clay bit Ø150	480159150305	3.70
Clay bit Ø200	48015920030	5.45
Clay bit Ø300	48015930030	10.00

Further drill bits on request



NordicGeo Self-Drilling Anchor T103



Rod T103	Outside diameter	Average internal diameter	Aver. eff. cross sectional area	Ultimate load capacity	Yield load capacity	Average tensile strength Rm	Average yield strength Rp0.2	Weight
	mm	mm	mm ²	kN	kN	N/mm ²	N/mm ²	kg/m
T103N	103	75	3450	2380	1900	690	560	27.30
T103S	103	53	5200	3550	2680	680	520	42.00

The way of order				
	For 1 m long	For 2 m long	For 3 m long	For 4 m long
T103N	48012809510	48012809520	48012809530	48012809540
T103S	48012809810	48012809820	48012809830	48012809840

	Diameter	Length	Catalogue no.	Weight
	mm	mm		kg
Coupling T103N	123	255	48013999918	9.17
Coupling T103S	132	290	480139999181	15.00

Nut T103	Key size	Length	Catalogue no.	Weight
	mm	mm		kg
Spherical nut T103	135	95	48019201499	5.30
	125	80	480192016014	3.40

Anchor plate T103	Dimension	Hole diameter	Part no.	Weight
	mm	mm		kg
	300x300x50	110	48019201702	20.00
300x300x60	110	48019201704	37.50	

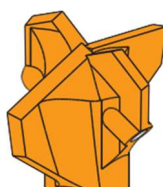
Bits with thread T103

Description	Catalogue no.	Weight
		kg
Cross bit Ø175 without sintered carbide inserts	480159175100	7.80
Cross bit Ø175 with sintered carbide inserts	480159175120	8.00
Button bit drop center Ø280 with sintered carbide insert	480159280450	11.00
Clay bit Ø175	480159175200	8.30
Clay bit Ø225	48015922530	9.00
Clay bit Ø280	480159280305	10.50

Futher drill bits on request



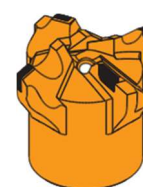
Button bit drop center

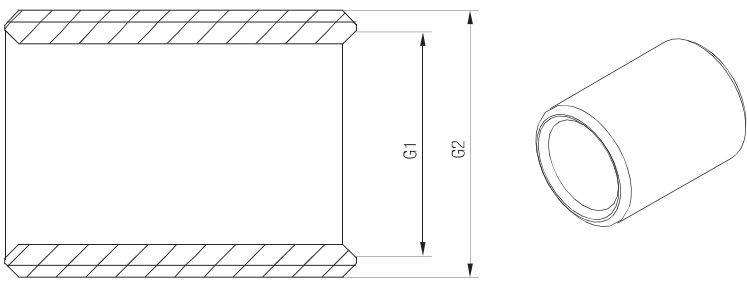


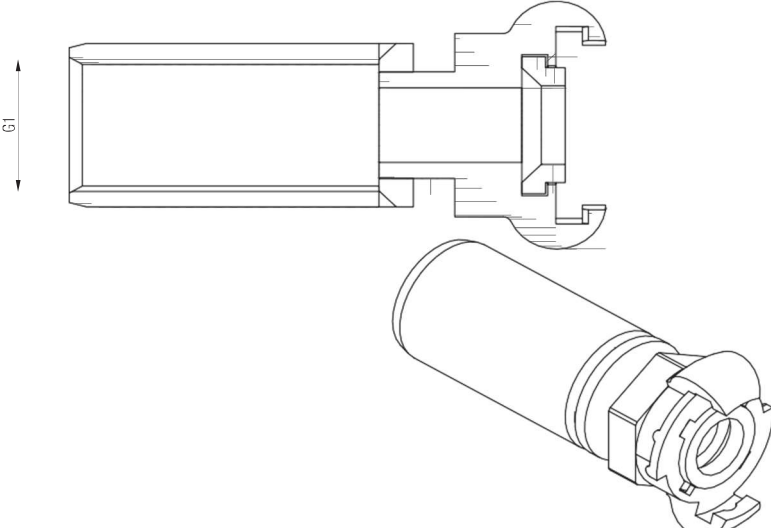
Clay bit
It is not offered in Germany market

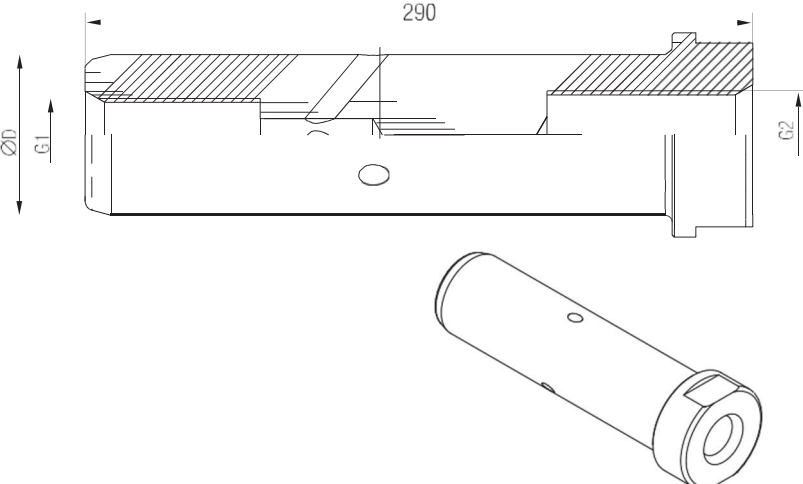


Cross bit

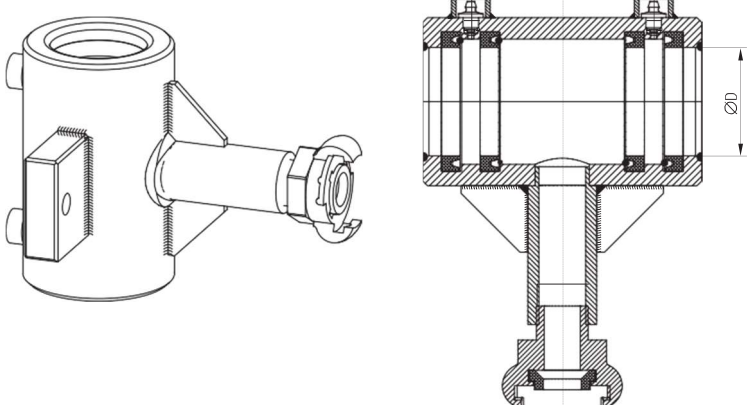


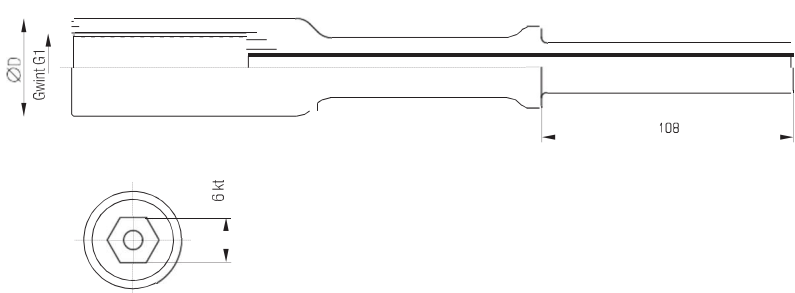
Adapter for bits		Type	G1	G2	Catalogue no.
		R25 ▷R32	R25	R32	48013941106
		R25 ▷R38	R25	R38	48013921106
		R32 ▷R25	R32	R25	48013911406
		R32 ▷R38	R32	R38	48013921406
		R32 ▷R51	R32	R51	48013951406
		R38 ▷R25	R38	R25	48013911206
		R38 ▷R32	R38	R32	480139412061
		R38 ▷R51	R38	R51	48013951206
		R38 ▷T76	R38	T76	48013997206
		R51 ▷R32	R51	R32	48013941506
		R51 ▷R38	R51	R38	48013921506
		R51 ▷T76	R51	T76	48013997506
		T76 ▷R51	T76	R51	48013957906

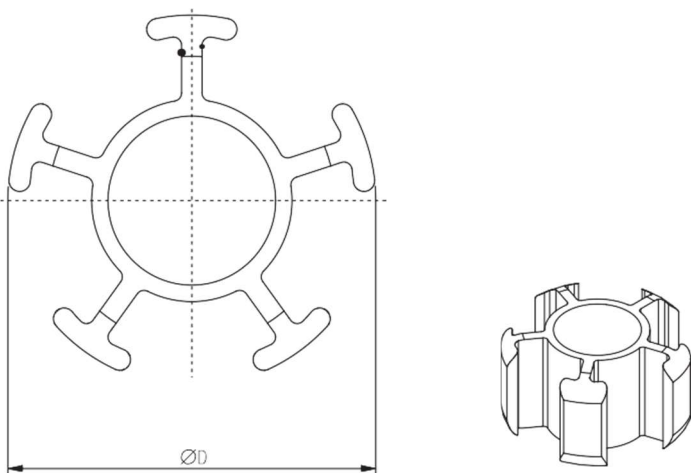
Adapter for injection		Type	G1	Catalogue no.
		R25	R25	48019202100
		R32	R32	48019202110
		R38	R38	48019202120
		R51	R51	48019202130
		T76	T76	48019202140

Connector for injection head		Type	D	G1	G2	Catalogue no.
		GB 70	70	R25	R32	48019201776
		GB 70	70	R25	T38	48019201774
		GB 70	70	R32	R32	48019201775
		GB 70	70	R32	R38	48019201773
		GB 70	70	R32	T38	48019201770
		GB 70	70	R38	R38	48019201772
		GB 70	70	R38	T38	48019201771
		GB 70	70	T38	T38	48019201777
		GB 80	80	R32	T45	48019201931
		GB 80	80	R38	T45	48019201932
		GB 85	85	R32	T45	48019201921
		GB 85	85	R38	T45	48019201922
		GB 85	85	R51	T45	48019201923

NordicGeo - Accessories

Leading head	Type	D	Catalogue no.
	GB 65	65	48019201870
	GB 70	70	48019201760
	GB 80	80	48019201880
	GB 85	85	48019201860
	GB 100	100	48019201900
	GB 110	110	48019201910

Adapter for drilling	Type	D	G1	Catalogue no.
	6kt22	35	R25	48013918700
	6kt22	45	R25	48013918712
	6kt22	55	R38	48013928700
	6kt22	42	Ti30	48013949700
	6kt22	53	Ti40	48013939700
	6kt22	65	Ti52	48013959700
	6kt22	45	R32	48013948700

Centralizer	G1	D	Catalogue no.
	R25	48	480192016952
		73	480192016953
	R32	48	480192016911
		73	48019201691
	R38	73	480192016931
		87	480192016932
		110	480192016934
		130	480192016935
	R51	87	480192016942
		110	480192016943
	T73	125	480192016944
		145	480192016961
	T76	145	480192016962
		195	480192016963
		125	48019201690
T103	145	480192016901	
	195	480192016902	
		170	480192016981



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