

Documentation

Reinforcement Systems

AT-Connect



Ankertechneik

Strong in

Quality



Version: 2020

AT-Connect



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AT-Connect



AT-Ankertechnik



Production in the Netherlands



Quality Management System NEN-EN-ISO
9001 certified



The reinforcement systems are KOMO-
certified in category 1 / 2 for static /
dynamic loads. See page 5



Standard lengths available from stock



Specials in various sizes and curves
available within a few days

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Reinforcement Systems



Versions:

AT-SA Rebar Coupler Female

AT-SA rebar coupler female is a press sleeve with internal metric thread, pressed onto a reinforcing bar. The quality of the reinforcing bar is B500B. The steel press sleeve is electrolytically galvanized.

In combination with an AT-SE bar end or AT-GSE Bar end, uninterrupted reinforcement is created.



AT-SE Rebar Coupler Male

AT-SE rebar coupler male is a press sleeve with external metric thread, pressed onto a reinforcing bar. The quality of the reinforcing bar is B500B. The steel press sleeve is electrolytically galvanized.

Uninterrupted reinforcement is created in combination with an AT-SA rebar coupler female.



AT-GSE Rebar Coupler Male

AT-GSE rebar coupler male is a reinforcing bar with an external metric thread. The quality of the reinforcing bar is B500B.

Uninterrupted reinforcement is created in combination with an AT-SA rebar coupler female.



Information

The versions are provided with an AT-Ankertechnik mark. AT-Connect can be made in various lengths and curves. Standard lengths available from stock. With the available knowledge and facilities, AT-Ankertechnik is able to deliver specific, customer-oriented solutions quickly.

AT-Connect



KOMO-Certification



Coupling of Rebar | Category 1:

The couplings have been tested up to 2 million load cycles with a voltage ripple of 60N/mm² and certified for predominantly static applications.

Type AT-SA and AT-GSE - Category 1, Ductility class B.

This certificate applies to Ø12 to Ø40

Rebar Anchor type: AT-SA Ø 12 - 40 mm	
Rebar End type: AT-GSE Ø 12 - 40 mm	



Coupling of Rebar | Category 2

The couplings have been tested up to 2 million cycles and certified for static and dynamic loads with a characteristic fatigue strength of 66N/mm²

Type AT-SA and AT-SE - Category 2, Ductility class B.

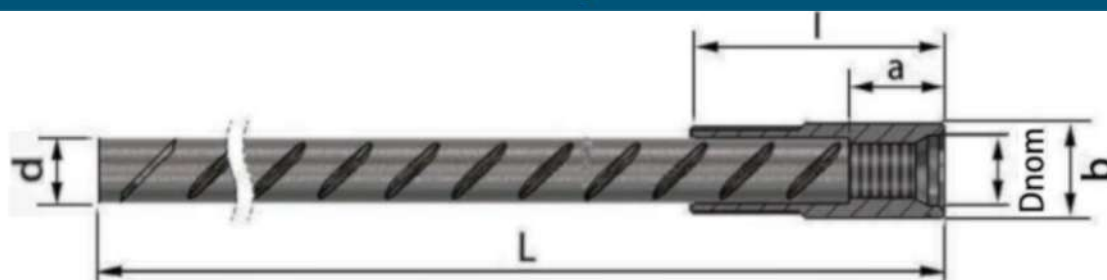
This certificate applies to Ø12 to Ø40

Rebar Anchor type: AT-SA Ø 12 - 40 mm	
Rebar End type: AT-SE Ø 12 - 40 mm	

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AT-SA rebar coupler female

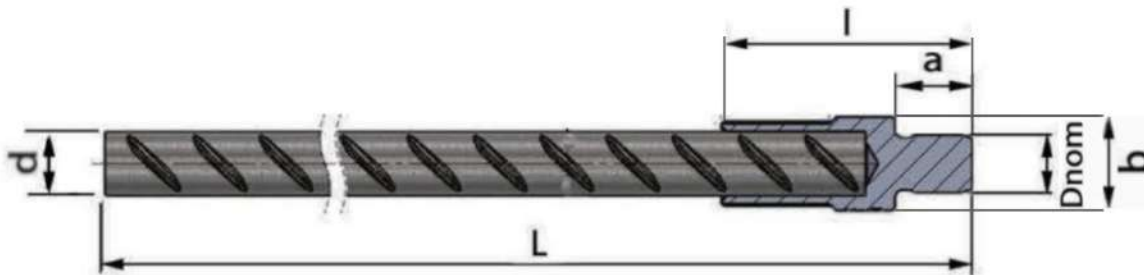


AT-SA rebar coupler female	AT-Connect					
Article number	d (mm)	L (mm)	Dnom (mm)	a (mm) min.	l (mm) ±	b (mm)
A002500		415	M16	25	62	22
A002501		615	M16	25	62	22
A002502		840	M16	25	62	22
A002503	Ø12	1040	M16	25	62	22
A002504		1540	M16	25	62	22
A002505		2040	M16	25	62	22
A002506		3540	M16	25	62	22
A002507		560	M20	38	86	28
A002508		810	M20	38	86	28
A002509		1060	M20	38	86	28
A002510	Ø16	1480	M20	38	86	28
A002511		2240	M20	38	86	28
A002512		3540	M20	38	86	28
A002513		4025	M20	38	86	28
A002514		705	M24	42	99	34
A002515		1005	M24	42	99	34
A002516		1320	M24	42	99	34
A002517	Ø20	1840	M24	42	99	34
A002518		2245	M24	42	99	34
A002519		3540	M24	42	99	34
A002520		4025	M24	42	99	34
A002521		1055	M30	52	118	41
A002522		1555	M30	52	118	41
A002523	Ø25	2315	M30	52	118	41
A002524		3555	M30	52	118	41
A002525		4025	M30	52	118	41
A002526		1015	M42	65	155	55
A002527	Ø32	1490	M42	65	155	55
A002528		2390	M42	65	155	55
A002529		3590	M42	65	155	55
A002530		1600	M48	72	190	65
A002531	Ø40	2400	M48	72	190	65
A002532	Special					

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AT-SE rebar coupler male

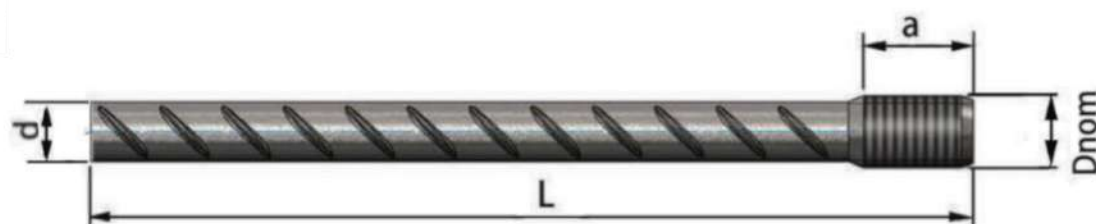


AT-SE rebar coupler male	AT-Connect					
Article number	d (mm)	L (mm)	Dnom (mm)	a (mm) min.	l (mm) ±	b (mm)
A003000	Ø12	200	M16	18,5	62	22
A003001		375	M16	18,5	62	22
A003002		575	M16	18,5	62	22
A003003		800	M16	18,5	62	22
A003004		1000	M16	18,5	62	22
A003005		1500	M16	18,5	62	22
A003006		2000	M16	18,5	62	22
A003007		3500	M16	18,5	62	22
A003008	Ø16	200	M20	22,5	86	28
A003009		520	M20	22,5	86	28
A003010		770	M20	22,5	86	28
A003011		1020	M20	22,5	86	28
A003012		1440	M20	22,5	86	28
A003013		2200	M20	22,5	86	28
A003014		3500	M20	22,5	86	28
A003015	Ø20	200	M24	27	99	34
A003016		665	M24	27	99	34
A003017		965	M24	27	99	34
A003018		1280	M24	27	99	34
A003019		1800	M24	27	99	34
A003020		2200	M24	27	99	34
A003021		3500	M24	27	99	34
A003022	Ø25	200	M30	33,5	118	41
A003023		1000	M30	33,5	118	41
A003024		1500	M30	33,5	118	41
A003025		2260	M30	33,5	118	41
A003026		3500	M30	33,5	118	41
A003027	Ø32	1400	M42	46	155	55
A003028		2300	M42	46	155	55
A003029		3500	M42	46	155	55
A003030	Ø40	1655	M48	54	190	65
A003031		2455	M48	54	190	65
A003032		Special				

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AT-GSE rebar coupler male



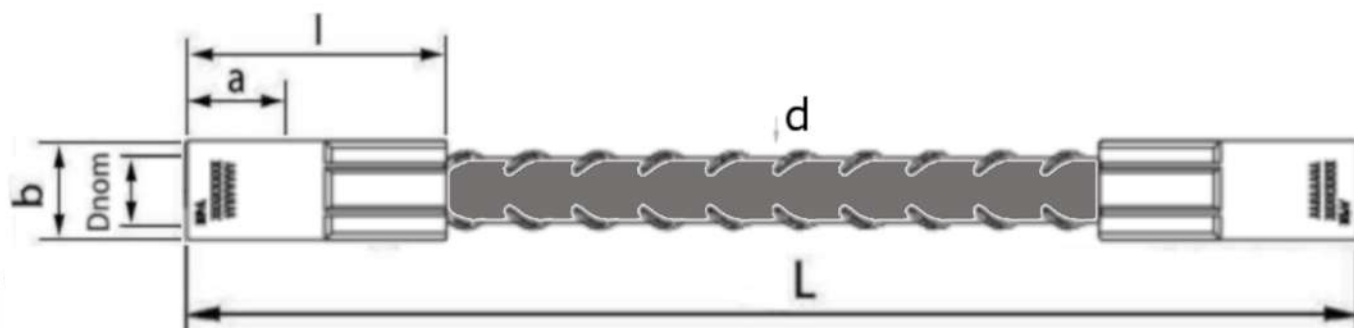
AT-GSE rebar coupler male	AT-Connect			
Article number	d (mm)	L (mm)	Dnom (mm)	a (mm) min.
A003500		200	M16	21
A003501		375	M16	21
A003502		575	M16	21
A003503	Ø12	800	M16	21
A003504		1000	M16	21
A003505		1500	M16	21
A003506		2000	M16	21
A003507		3500	M16	21
A003508		200	M20	27
A003509		520	M20	27
A003510		770	M20	27
A003511	Ø16	1020	M20	27
A003512		1440	M20	27
A003513		2200	M20	27
A003514		3500	M20	27
A003515		200	M24	34
A003516		665	M24	34
A003517		965	M24	34
A003518	Ø20	1280	M24	34
A003519		1800	M24	34
A003520		2200	M24	34
A003521		3500	M24	34
A003522		200	M30	42
A003523		1000	M30	42
A003524	Ø25	1500	M30	42
A003525		2260	M30	42
A003526		3500	M30	42
A003527		1400	M42	45
A003528	Ø32	2300	M42	45
A003529		3500	M42	45
A003530		1655	M48	54
A003531	Ø40	2455	M48	54
A003532	Special			

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AT-Specials

AT-SAD double ended rebar coupler female

AT-SAD double ended rebar coupler female is a reinforcing bar with two press sleeves with internal metric screw thread. The desired length (measurement L) must be specified at the time of the order.



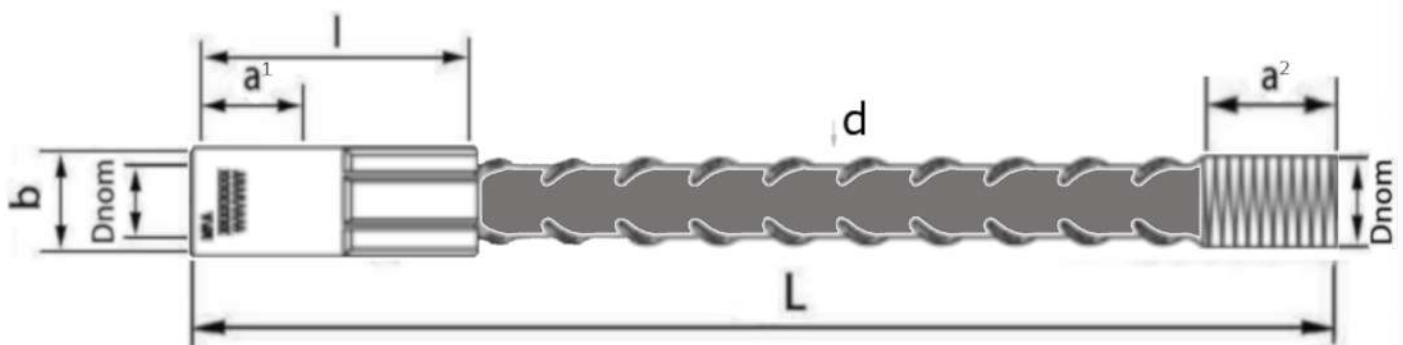
AT-SAD	AT-Connect				
Dimension	d (mm)	Dnom (mm)	a (mm) min.	l (mm) ±	b (mm)
Ø12M16 x L	Ø12	M16	25	62	22
Ø16M20 x L	Ø16	M20	38	86	28
Ø20M24 x L	Ø20	M24	42	99	34
Ø25M30 x L	Ø25	M30	52	118	41
Ø32M42 x L	Ø32	M42	65	155	55
Ø40M48 x L	Ø40	M48	72	190	65

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AT-Specials

AT-SAGSE double ended rebar coupler female / male

The AT-SAGSE is a reinforcing bar with internal metric thread and the other side has external metric thread. The desired length (measurement L) must be specified at the time of the order.



AT-SAGSE	AT-Connect					
Dimension	d (mm)	Dnom (mm)	a ¹ (mm) min.	a ² (mm) min.	l (mm) ±	b (mm)
Ø12M16 x L	Ø12	M16	25	21	62	22
Ø16M20 x L	Ø16	M20	38	27	86	28
Ø20M24 x L	Ø20	M24	42	34	99	34
Ø25M30 x L	Ø25	M30	52	42	118	41
Ø32M42 x L	Ø32	M42	65	45	155	55
Ø40M48 x L	Ø40	M48	72	54	190	65

AT-Connect

Bending and cutting

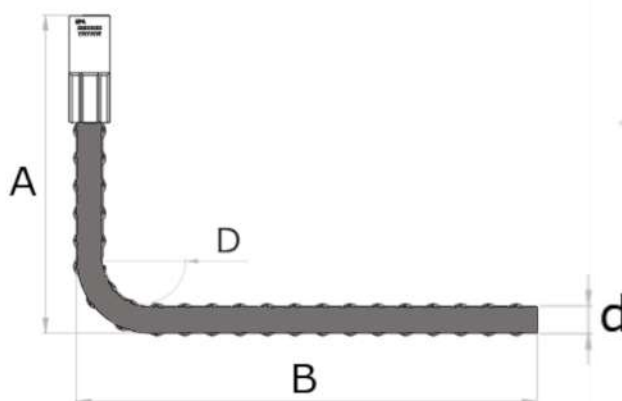
Bending and cutting

AT-Ankertechnik is KOMO-certified to perform bending and cutting work according to BRL 0503. This means that the bending and cutting work is carried out under controlled conditions. We can quickly bend and cut all desired sizes to the desired length.

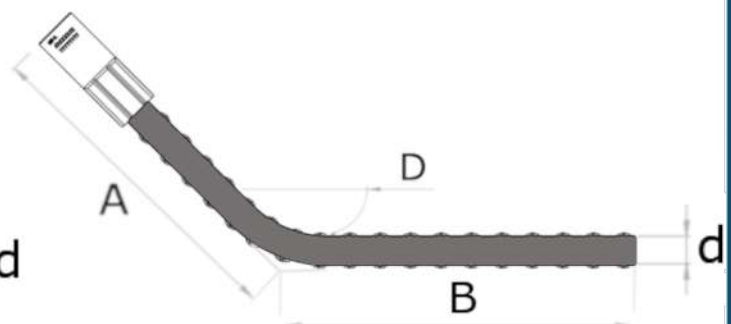
Bending roller diameter

We use 5 x the diameter (d) as standard. At $\varnothing 12$ to $\varnothing 16$, 4 x the diameter can be used if required to achieve the minimum bending size. See pages 12-14.

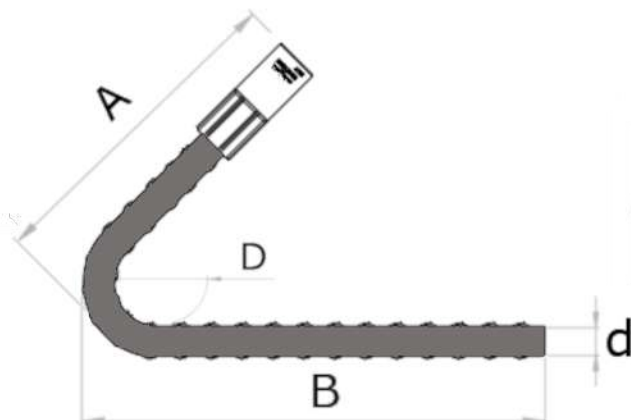
Type 1 | 90°



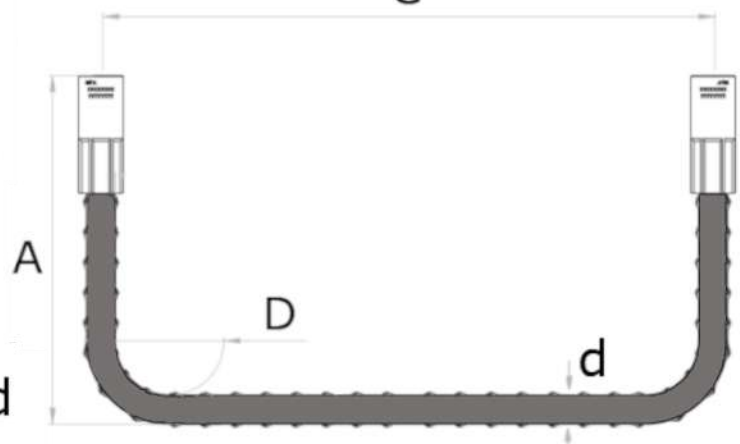
Type 2 | 180° - 90°



Type 3 | 90° - 45°

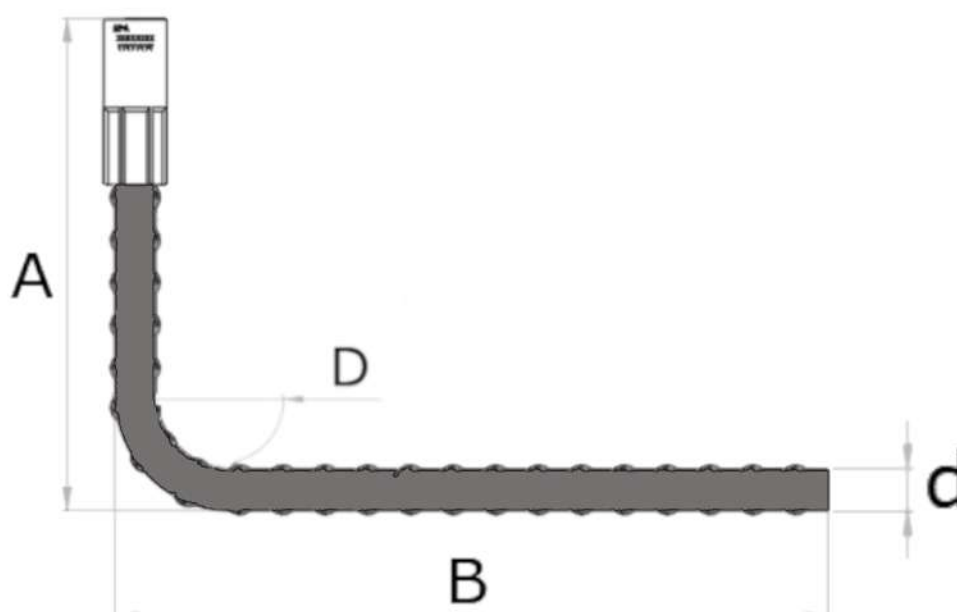


**Double curve
C**



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Bent AT-SA



Bent AT-SA	AT-Connect		
Dimension	A-measurement (mm) min.	B-measurement (mm) min.	Bending roll diameter D (mm)
AT-SA Ø12M16	120	105	48-60*
AT-SA Ø16M20	155	150	64-80*
AT-SA Ø20M24	195	210	100
AT-SA Ø25M30	230	220	125
AT-SA Ø32M42	300	225	160
AT-SA Ø40M48	400	250	200

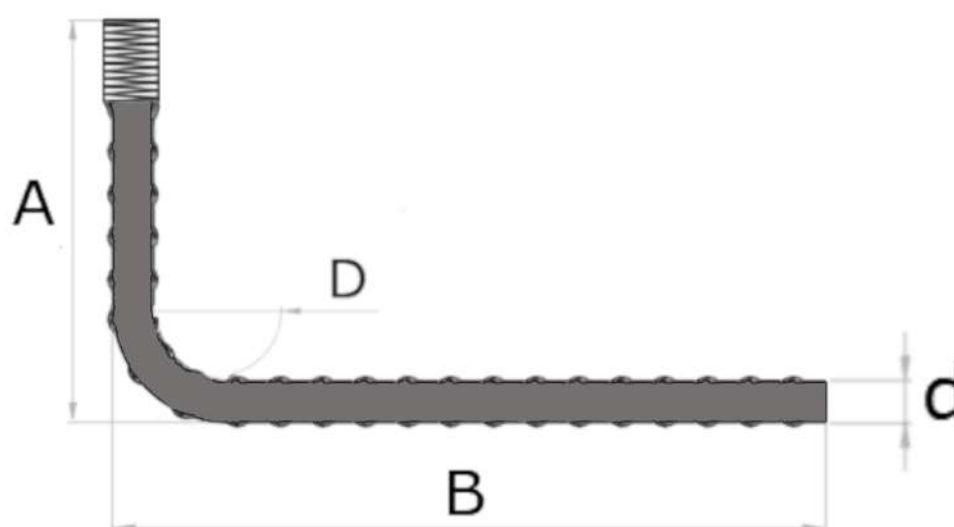
The minimum bending size and bending roll diameter is given in the table.

*As standard, we use 5 x diameter (d) for the bending roll diameter. At Ø12 to Ø16, 4 x the diameter can be used if required to achieve the minimum bending size.

The A-measurement must be specified at the time of the order.

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Bent AT-GSE



Bent AT-GSE	AT-Connect		
Dimension	A-measurement (mm) min.	B-measurement (mm) min.	Bending roll diameter D (mm)
AT-GSE Ø12M16	115	105	48-60*
AT-GSE Ø16M20	155	150	64-80*
AT-GSE Ø20M24	195	210	100
AT-GSE Ø25M30	230	220	125
AT-GSE Ø32M42	300	225	160
AT-GSE Ø40M48	400	250	200

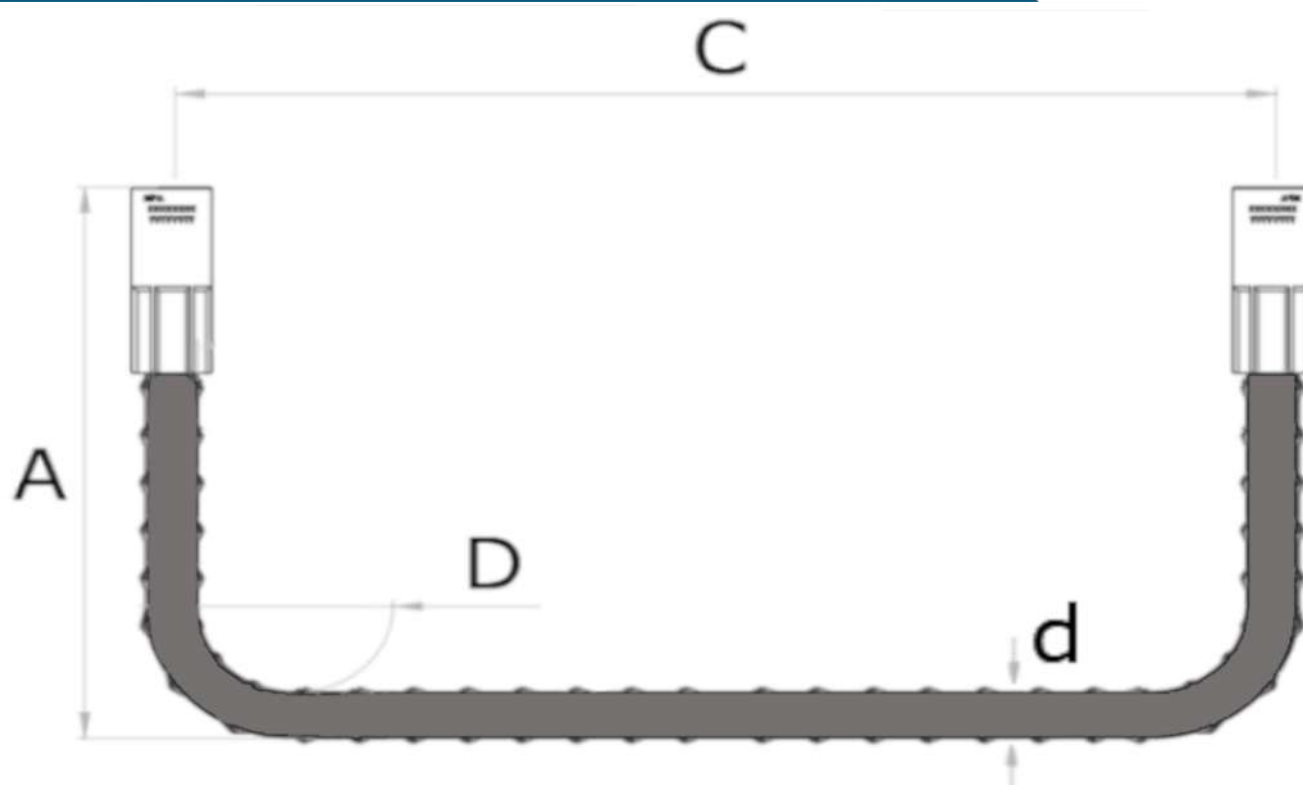
The minimum bending size and bending roll diameter is given in the table.

*As standard, we use 5 x diameter (d) for the bending roll diameter. At Ø12 to Ø16, 4 x the diameter can be used if required to achieve the minimum bending size.

The A-measurement must be specified at the time of the order.

AT-Connect

Double bent



Double bent	AT-Connect		
Dimension	A-measurement (mm) min.	C-measurement c.t.c (mm) min.	Bending roll diameter D (mm)
AT-SA Ø12M16 x L	115	100	48-60*
AT-SA Ø16M20 x L	155	150	64-80*
AT-SA Ø20M24 x L	195	175	100
AT-SA Ø25M30 x L	230	200	125
AT-SA Ø32M42 x L	300	225	160
AT-SA Ø40M48 x L	400	400	200

The minimum bending size and bending roll diameter is given in the table.

* As standard, we use 5 x diameter (d) for the bending roll diameter. At Ø12 to Ø16, 4 x the diameter can be used if required to achieve the minimum bending size.

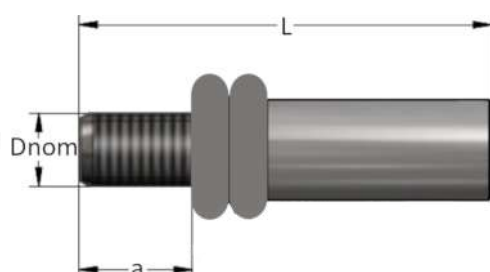
The A and C measurement (centre to centre) must be included at the time of the order.

AT-Connect

Positional Couplers

Information

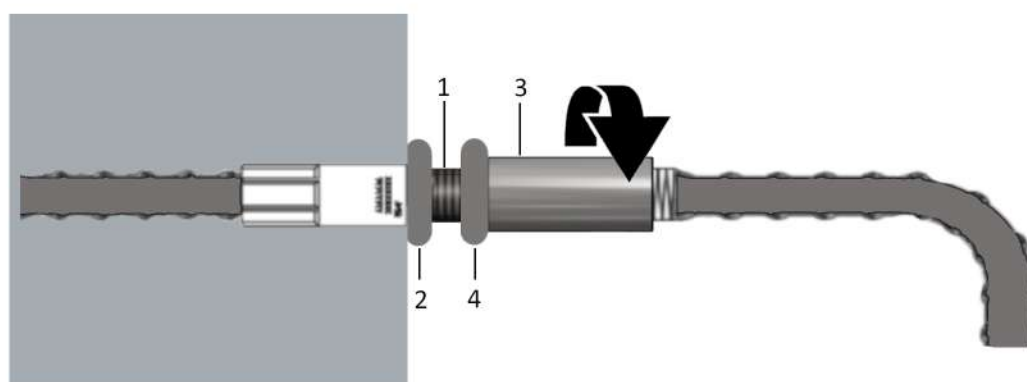
Positional couplers are the solution if bended reinforcing bars cannot be turned. The adjusting couplings are available in diameters Ø12 to Ø40. Positional couplers consists of two lock nuts, metric threaded end and a threaded bush.



Positional couplers	AT-Connect			
Article number	d	Dnom (mm)	a (mm) min.	L (mm)
A001529	Ø12	M16	25	48
A001530	Ø16	M20	38	61
A001531	Ø20	M24	42	69
A001532	Ø25	M30	52	83
A001533	Ø32	M42	65	112
A001534	Ø40	M48	72	127

Using positional couplers

1. Screw the threaded rod into the socket of the connecting anchor
2. Tighten the lock nut
3. Turn sleeve over bar end
4. Tighten the lock nut



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Usage instructions

Design loads and ductility

AT-Connect design loads are based on the load capacity of the reinforcing steel B500B used, see table below.

Design loads and ductility				
d (mm)	Cross section A_s (mm ²)	Design loads N_{Rd} (kn)	Ductility	
			R_m/R_e (-)	Agt (%)
Ø12	113	49,2		
Ø16	201	87,4		
Ø20	314	136,6	1.08 ≥	5.0 ≥
Ø25	491	213,4		
Ø32	804	349,7		
Ø40	1256	546,4		
Design loads $N_{Rd} = A_s \times f_{yd}$ ($f_{yd} = f_{yk}/1.15$) according to EN 1992-1-1.				

Anchoring length

The anchorage length of the reinforcing rebar in the concrete must be checked in accordance with EN 1992-1-1. This check will determine the minimum anchoring length that is required. The corresponding minimum product length can now be determined. Our rebar ends and rebar anchors have a length tolerance of +/- 1x the rebar diameter and a sleeve or thread part that must be added to the anchoring length to determine the minimum product length.

Calculate product length AT-SA rebar coupler female and AT-SE rebar coupler male:

For this, add to the anchoring length L: the length tolerance +/- 1x bar diameter d and the length of the press sleeve l.

Minimum product length L = anchoring length + d + l

Calculate product length AT-GSE rebar coupler male:

For this, add to the anchoring length L: the length tolerance +/- 1x bar diameter d and the length of the threaded part a.

Minimum product length L = anchoring length + d + a



AT-Connect

Usage instructions

Torque wrench

AT-Reinforcement systems are KOMO-certified if the rebar couplers are tightened according to the table below. The KOMO quality mark only applies to a combination of an AT-SA rebar coupler female and AT-SE or AT-GSE rebar coupler male. See page 5.



Torque wrench	AT-Connect					
Reinforcement diameter (mm)	Ø12	Ø16	Ø20	Ø25	Ø32	Ø40
Necessary Torque +/- 5% (Nm)	60	80	100	125	160	200

Processing instructions

Store materials in a clean environment for trouble-free installation. Mount the bar ends using a torque wrench.



Welding

Welding can affect the material properties of steel. AT-Ankertechnik can therefore not accept liability if the products are welded.

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Legend

AT-Connect

d	=	reinforcement bar diameter
L	=	product length
a	=	thread length
Dnom	=	diameter metric thread
b	=	diameter bushing
l	=	length sleeve

Bends

A	=	A-measure bend
B	=	B- measure bend
C	=	C-measure centre to centre
D	=	bending roll diameter

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Contact



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Disclaimer

Although the greatest care has been taken in compiling this documentation, there is a possibility of inaccuracies. Any liability for this is rejected.

General terms of delivery

All agreements with AT-Ankertechnik BV are subject to the 'Metaalunie' conditions, deposited at the Court of Rotterdam, as they stand according to the last text deposited there. These conditions will be sent to you immediately, upon request.

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