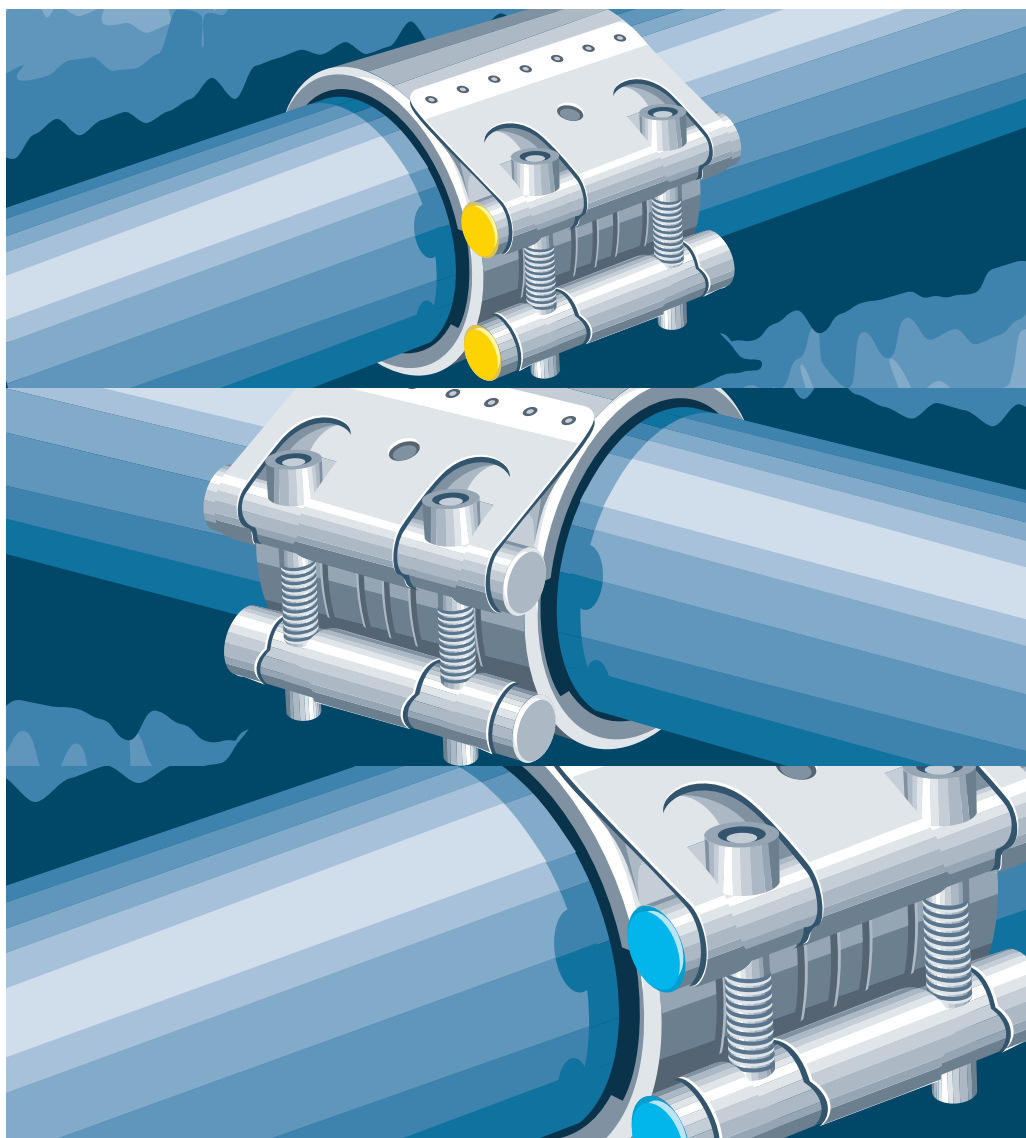


WAGA® more than a connection!



The WAGA® Family 500: connection solutions for all plain-ended pipes

Approved by:

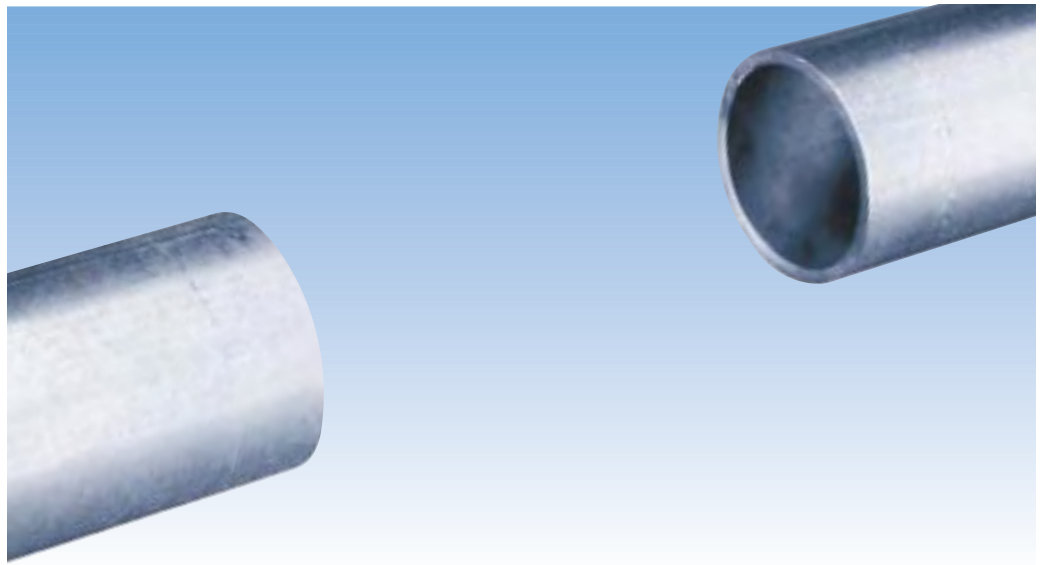


GEORG FISCHER +GF+

ISO 9001
registered by
GASPEC

Family 500: complete solutions in stainless steel

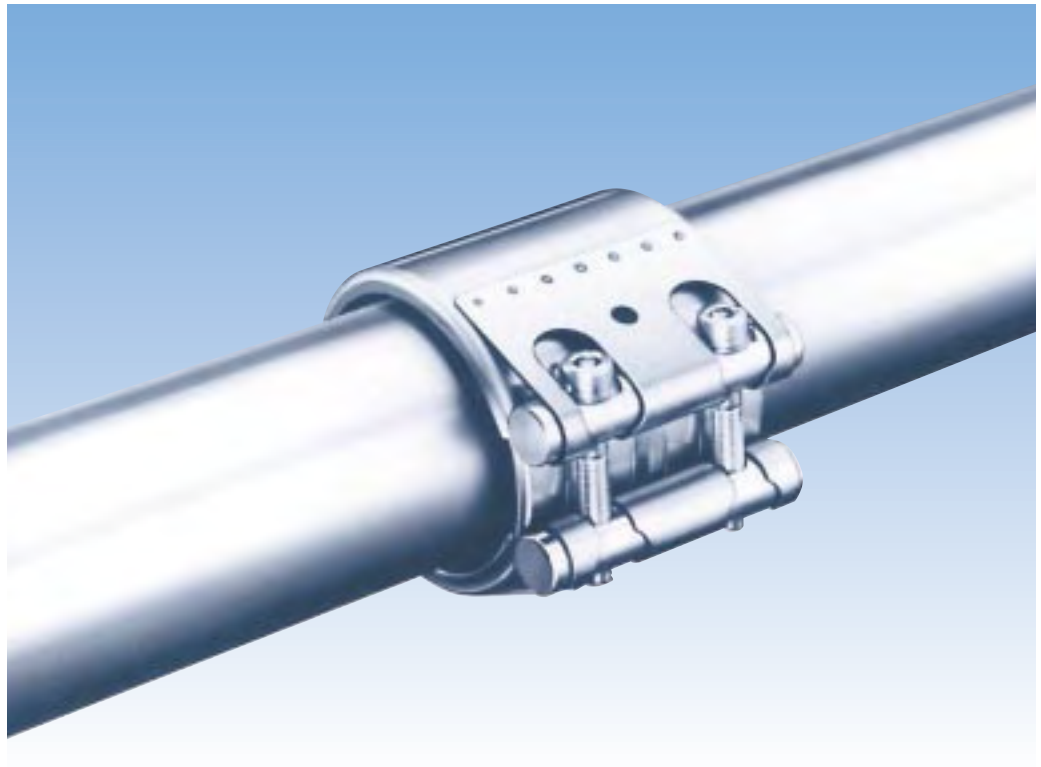
As a leading specialist in pipeline connections we, Georg Fischer WAGA, are widely known for innovative solutions. Besides many high-quality 'standard' connections we offer the Family 500: a wide range of solutions for both flexible and restraint connections. Each type was designed for specific purposes and applications in e.g. industrial installations, sewages, shipyards and high pressure pipelines, both under and above ground. So if you need to join or repair plain-ended metal or plastic pipes, it's time for you to meet the Family 500.



WAGA[®] **Family 500:**

Ideal for:

- industrial installations
- sewage
- shipyards
- high pressure pipe lines



WAGA® Family 500 offers you:

1. Heavy-duty lock bars

For the WAGA® Family 500 pipe coupling, bars with extra-large diameter are employed. This improves the coupling's rigidity and the engagement of the bolts' threads considerably. *1

2. New double-lip sealing system

The patented sealing system provides double safety.

3. Standard steel strip insert.

The reinforcing steel strip inlay makes it possible to easily use the coupling even for large pipe gaps and vacuum applications. In addition, shear strength of the coupling is increased.

4. Protection ring (for couplers below 219,1 mm)

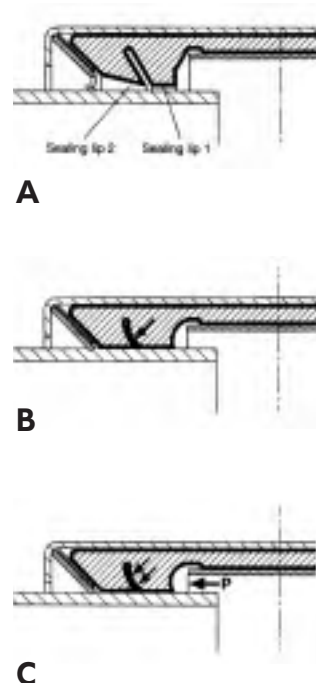
The protection ring protects the sealing sleeve from e.g. preventing extrusion enhances the bending stability of the coupling.

The technical data are not binding. They are not to be considered as warranted characteristics and are subject to change. Please consult our general sales conditions.

All members of the Family 500 offer these great advantages:

- Made of sturdy stainless steel
- Ready for immediate use
- Quick and easy to install
- Limited space-need
- Light-weight
- Angularity of ± 2 degrees
- Approved worldwide
- From 180 mm each O.D. can be supplied
- And of course: unique Georg Fischer Quality

'Two-lip sealing system' (drawing A), which offers a double security at low working pressure or vacuum (drawing B) and a progressive sealing at high working pressure (drawing C).



	EPDM	NBR
Temperature range	$\varnothing \leq 168.3 \text{ mm}$ -30° to +125°C $\varnothing > 180 \text{ mm}$ -20° to +80°C	-20° to 80°C

*1: Lock bars are always round and slightly longer than the coupler width, reducing deformation risk of the shell. Even in economy versions (hollow anchors).



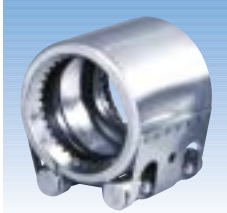
500 = WAGA®-Fleks



500E = Fleks Economy



505 = WAGA®-Klump



507 = WAGA®-Lock



507E = Lock Economy



507CL = Combi-Lock



507PL = Plast-Lock

Pipes to be connected	ø mm	Pressure Range bar	WAGA® 500 Family					
			Flexible type	Repair	Axial tensile strength type			
					500/500E	505	507	507E
Metal + Metal	26,9-219	16			•			
	26,9-168,3	16	•			•		
	180-406	10-2,5				•		
	35,0-168,3	16		•				
	180-1200	23,5-2,5	•	•				
Plastic + Plastic	40-160	16	•	•			•	
	180-1200	23,5-2,5	•	•				
Metal + Plastic	38/40-159/160	16	•	•				•
	26,9-168,3	16	•	•				
	180-1200	23,5-2,5	•	•				
Cast-Iron + Cast-Iron	26,9-168,3	16	•	•				
	180-1200	23,5-2,5	•	•				
Connects metal pipes			•	•	•	•		
Connects plastic pipes			•	•			•	•
Connects pipes made from different materials			•	•	•	•	•	•
Compact easy-to-fit technical design			•	•	•	•	•	•
Can be re-used after disassembly			•	•	•	•	•	•
Fitted as standard with steel belt insert			•	•	•	•	•	•
Fitted as standard with protection ring/claw ring for a higher flame and UV resistance			•					
Patented double lip sealing system (significantly increased sealing tightness under vacuum and pressure)			•	•	•	•	•	•
With simultaneous protective function			•	•	•	•		
EPDM sealing sleeve for temperature ranges from -30 C to +80 C (+125 C)			•	•	•	•	•	•
NBR sealing sleeve for temperature ranges from -20 C to +80 C			•	•	•	•	•	•
Can be used for line pressure up to 40 bar* ¹			•	•	•	•		
Maximum possible assembly tolerance			•	•	•	•	•	•
Bridges pipe end gaps up to 35 mm * ²			•	•	•	•	•	•
Allows pipe axis offset up to 3 mm * ²			•	•	•	•	•	•
Allows pipe angle offset up to 4 * ²			•	•	•	•	•	•
Compensates pipe external diameter differences up to 6 mm * ²			•	•	•	•	•	•
Compensation of pipe ovality up to 60 mm * ²			•	•	•	•		
Compensates temperature-related length changes / axial movements up to 10 mm * ²			•	•				

*1 Maximum allowable working pressure depends on type and size. Please check the technical specifications per type.

*2 These are maximum figures for the largest diameters.

Materials

The WAGA® 500 pipe couplings are available in the materials W2, W4 and W5. The support ring is only available as W5.

Materials summary Table contents = DIN numbers

W2					
	500 (E)	507 (E)	507CL	507PL	505
housing	1.4301	1.4301	1.4301	1.4301	1.4301
screws	1.7220	1.7220	1.7220	1.7220	1.7220
bolts	1.0737	1.0737	1.0737	1.0737	1.0737
protective ring	1.4571	-	-	-	-
claw ring for metal pipes	-	1.4310	1.04310	-	-
claw rings for plastic pipes	-	-	PA-GF/brass	PA-GF/brass	-
band insert	1.4571	1.4571	1.4571	1.4571	1.4571

W4					
	500 (E)	507 (E)	507CL	507PL	505
housing	1.4301	1.4301	1.4301	1.4301	1.4301
screws	1.4404	1.4404	1.4404	1.4404	1.4404
bolts	1.4301	1.4301	1.4301	1.4301	1.4301
protective ring	1.4571	-	-	-	-
claw ring for metal pipes	-	1.4310	1.04310	-	-
claw rings for plastic pipes	-	-	PA-GF/brass	PA-GF/brass	-
band insert	1.4571	1.4571	1.4571	1.4571	1.4571

W5					
	500 (E)	507 (E)	507CL	507PL	505
housing	1.4571	1.4571	1.4571	1.4571	1.4571
screws	1.4404	1.4404	1.4404	1.4404	1.4404
bolts	1.4401	1.4401	1.4401	1.4401	1.4401
protective ring	1.4571	-	-	-	-
claw ring for metal pipes	-	1.4310	1.04310	-	-
claw rings for plastic pipes	-	-	PA-GF/brass	PA-GF/brass	-
band insert	1.4571	1.4571	1.4571	1.4571	1.4571

Areas of application for sealing

	EPDM	NBR
temperature range	$\varnothing < 168.3 \text{ mm}$ -22°F - +257°F -30°C - +125°C $\varnothing > 180 \text{ mm}$ -4°F - +176°F -20°C - +80°C	-4°F - 176°F -20°C - +80°C
media	water aqueous lyes aqueous acids alcohols compressed air	water sea water mineral oils lubricants fuels gas compressed air

Material cross reference table

DIN	AISI/AS	BS	AFNOR NF
1.0737	12 L 14	230 M 07	S 300 PB
1.7220	4140 H	708 A 37	34 CD 4
1.4310	301	301 S 21	Z11 CN 17-08
1.4301	304	304 S 31	Z6 CN 18-09
1.4404	316L	316 S 11	Z3 CND 18-12-03
1.4571	316 Ti	320 S 31	Z6 CNDT 17-12
brass PA-GF	brass PA-GF	brass PA-GF	brass PA-GF

$$t_F = 32 + 9/5 \cdot t_C$$

$$t_C = 5/9 (t_F - 32)$$

C = Celsius

F = Fahrenheit

Type 500(E) (WAGA®-fleks)

Flexible type, to be applied in:

- Waste water systems
- Waste water and sewage plants
- Domestic installations
- Industrial pipelines
- Ship industry
- Car industry

Type 505(E) (WAGA®-klamp)

Repair type, to be applied where especially severe security and pressure conditions require heavy-duty stainless steel repair-clamps to repair weldings.

Type 507(E) (WAGA®-lock)

Restraint type, to be applied for

- Replacement of flanged connections
- Replacement of welded connections
- Replacement of threaded connections
- Replacement of anchoring devices with non-restraint couplings
- In general: all places where a pull-out resistant connection is required. This type is fitted with a patented 'Lock-Ring', which makes it the ideal choice if pull-out resistance is needed

Types 507 CL + 507 PL

Basically the same as type 507, but developed for connections between plastic x plastic and metal x plastic.

Pressure groups

In order to give you the possibility to choose the best (money-wise or most suitable) coupling for your particular situation, we offer our couplings for sizes larger than 168,3 mm in several pressure classes. These classes are coded from A to D, D being the highest working pressure class.

Complete solutions

As you can see, the WAGA® Family 500 offers efficient solutions for any coupling or repair problem you may encounter. Detailed technical specifications can be found on the opposite page. For further information please don't hesitate to contact us.

WAGA® Family 500 approvals



German approvals for gas and water pipelines



Registro Italiano Navale Italian marine



Russian marine



Germanischer Lloyd German marine



Lloyds Register



Det Norske Veritas



American Bureau of Shipping



Bureau Veritas

ClassNK ClassNK

Economy

The E-type (economy) is a more economical solution for the lower budgets.

The quality and performance are equal to the "normal" type, material (and therefore weight and money) was saved by producing hollow anchors.

So, all benefits of the normal type, against a more economical price-level.

Product - marking

How to order?

For an inquiry or order, please specify:

- | | |
|---------------------------------------|--|
| 1. Type | Fleks (500, 500A2-D2, 500A3-B3)
Klamp (505, 505A2-D2, 505A3-B3)
Lock (507, 507E) |
| 2. Required material | (W2, W4, W5) |
| 3. Outside diameter O.D. (ref. table) | |
| 4. Required sealing sleeve material | (EPDM, NBR) |

Or **+GF+** WAGA®- code

Example: 779.017.172

All products from the 500-programme are marked with:

Type	500
MAWP	A2
Combination of materials	W2
O.D.	609.6
Rubber	EPDM

Also the production date and **+GF+** WAGA®-code are mentioned

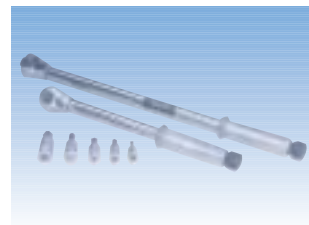
Available tools for installation

- Torque wrenches 20 - 50 Nm
30 - 200 Nm

- Spanner for closing type 505 Repair Clamp O.D. 35 - 168.3 mm.
- Special mounting tool for type 505 Repair Clamp O.D. 180 - 1200 mm.

The couplings type 500 and 505 are also suitable for plastic pipes such as PVC, GRP and so on, according to PN 10 and above.

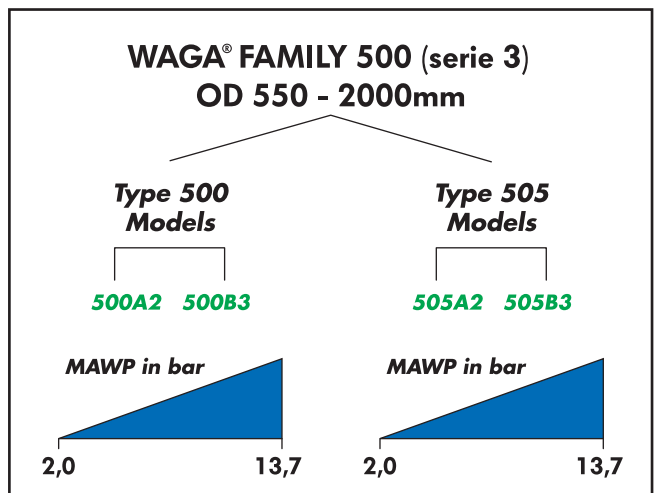
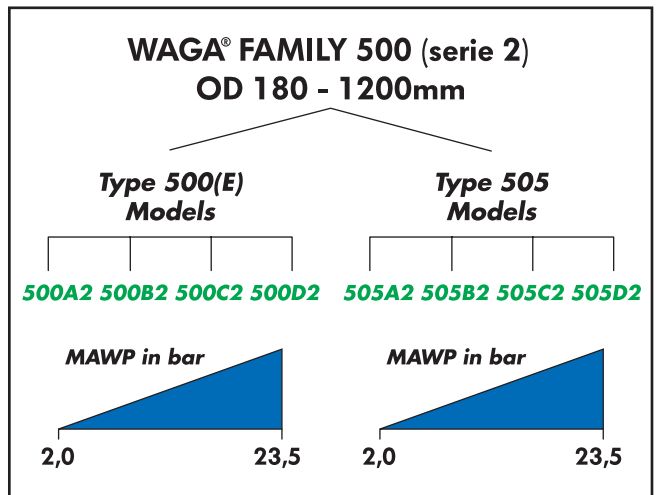
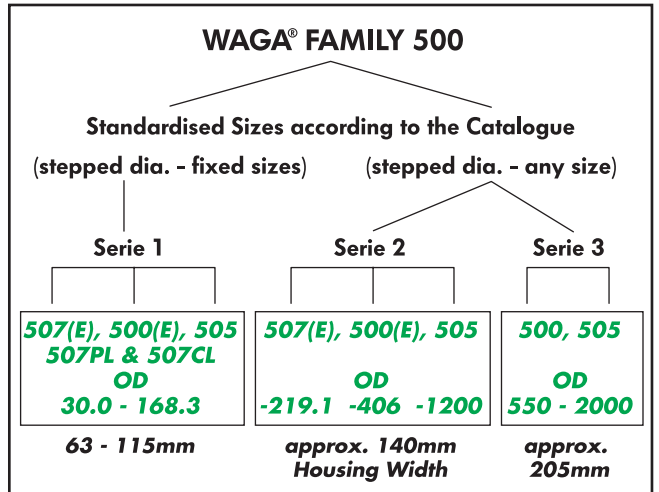
For use on HDPE pipes, we advise to use inserts according to international and national regulations. Stainless steel inserts are available from **+GF+** WAGA®. See our documentation WA 2510.



INDEX

	Type	Document nr.
EXTRA INFORMATION TO HELP YOU CHOOSE WHAT YOU MIGHT NEED.		
500 Family		WA 2501
500 table		
500		
500	A2	
500	B2	
500	C2	
500	D2	
505 Family		WA 2505
505 table		
505		
505	A2	
505	B2	
505	C2	
505	D2	
507 Family		WA 2507
507 table		
507		
507CL	Combi-Lock	
507PL	Plast-Lock	
Economy		WA 2501
500E table		
500E		
500E	A2	
500E	B2	
500E	C2	
500E	D2	
507E table		WA 2507
507E		
507E	>200mm	
Accessories		WA 2510

WAGA® Family 500 series



Other couplings of the WAGA® sales programme:



- Multi/Joint® system DN 50 - DN 300
 - DK-system DN 50 - DN 600
 - Steel-system DN200 - DN2800
- Ask for our documentation; chapter 2

Other products of the WAGA® sales-programme:

- Repair parts of cast iron and/or stainless steel. Ask for our documentation; chapter 3
- Tapping fittings and drilling devices. Ask for our documentation; chapter 4
- Additional products for above products. Ask for our documentation; chapter 5

Also by Georg Fischer:

- STEMU® • ELGEF® • INSTAFLEX® • POLYRAC® • PRIMOFIT® • SIGNET programme

Local Distributor

GEORG FISCHER +GF+

Georg Fischer WAGA N.V., P.O. Box 290, 8190 AG EPE/Netherlands.

Tel: +31 (0)578/678378, Fax: +31 (0)578/620848

E-mail: sales@waga.nl <http://www.waga.nl>