PRODUCT CATALOGUE



United Pipeline Products Your repair is our care'



HEGAWA

ROMACON

United Pipeline Products



Left: Twan van Heesch and right: Piet van de Warenburg

INTRODUCTION

After years of integration and relocations, we would now like to present our group of companies. Since November 19, 2010, the official opening of our new location, we have named our umbrella holding United Pipeline Products. This name highlights our internal unity / vision and the active sector in which our independent businesses operate.

Since 19 November 2010, United Pipeline Products has been made up of the following companies:

- 1. HUWA international pipeline products by
- 2. ROMACON pipeline products by
- 3. ROMACON Petro by
- 4. GEKAVE international by
- 5. HEGAWA by

Brought together in one new production and sales location, in response to the changing international environment in the water, gas, oil and energy markets.

The individual companies will continue to operate independently, since this has proved very successful over the past 25 years.

We now have a presence in over 50 countries and are proud to be the largest producer in Europe in the field of stainless steel repair clamps. We hope to continue to serve you in the future.

United Pipeline Products is ready for the future

Our machinery has been up-dated and our entire building is equipped with all the latest environmentally friendly technologies:

- (geothermal installation, ultrasonic stain bath),
- automation systems (ERP, EXACT, bar code printers, VOIP),
- production technologies (MIG/MAG /TIG welding robots),
- PLC-controlled automated cutting and punching line.

As a group we also ensure that our products meet the current international standards for drinking water pipes, gas supply, etc. This means that we can supply gaskets in EPDM, NBR and VITON with various labels (ACS, WRAS, BS, KTW). For our repair clamps, we use only high quality stainless steel (AISI 316 (EN 1.4401) / AISI 304 (EN 1.4301)). Outlets and flanges are available to meet all international standards (ANSI, DIN and EN). Of course we are a NEN-EN-ISO 9001:2008 certified company.

Our experienced staff is educated and fully trained to help customers solve all possible issues related to pipe repair and hot tapping as well as providing useful advice. Our "special products division" has skilled and certified welders that guarantee high quality results for our specially engineered products.



At the same time we moved to a new location and united our forces, we also streamlined and adjusted production processes where necessary.





ROMACON ON THE JOB



REPAIR CLAMP TYPE SNAP

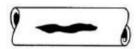
pipeline products for water, gas and industrial applications

Romacon Snap Clamps are used for the permanent repair of damaged pipes above ground

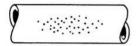
for water, gas and petrochemical fluids



Following types of damage can be repaired:



Cracks / Local damage



Pit holes

Application:

Snap Clamps provide a fast and economic repair to small damages in pipes up to DN 300.

They are applied on board of ships and by plumbers for repairs above ground.

The rubber partially covers the inside of the band and allows the repair of small holes caused by corrosion or frost.

The clamps can be used on following pipe types:

- Ductile Iron (DI)
- Copper
- Cast Iron (CI)
- Steel (St.)

Pressure ratings:

- Pipe OD 21-111 mm 16 bar
- Pipe OD 112-229 mm 10 bar
- Pipe OD 272-329 mm 6 bar

Maximum pressure for gas pipes is 4 bar (for all pipe od's up to incl. 329 mm)

Available sizes:

Snap Clamps are available for pipes up to DN 300 and length 75, $150 \ \text{and} \ 225 \ \text{mm}.$

We will send you a price-list with all available ranges upon request.

For larger ranges we can supply double band snap clamps.

Material specification:

- Lugs: ductile iron GGG 40 acc. to Din 1693 or malleable iron GTW 40 acc. to Din 1692, surface sheradized with 15 microns zinc.
- Band: stainless steel acc. to AISI 304.
- Bolts: special mushroom head square neck bolts. Bolt size M10 up to 2" and M12 for larger sizes. Material acc. to class 4.6, surface galvanized with 5 microns zinc.
- Hexagon nuts: acc. to Din 934 class 5, surface galvanized with 5 microns zinc.
- Washer: acc. to Din 125a, surface galvanized with 5 microns zinc.
- Rubber (standard): waffled EPDM, NBR on request; acc. to ISO gas and water pipelines.

REPAIR CLAMP TYPE RS-C

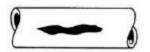
pipeline products for water, gas and industrial applications

Romacon stainless steel repair clamps style RS-C are used for permanent repairs of damaged pipes

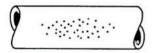
for water, gas and petrochemical fluids



Following types of damage can be repaired:



Cracks / Local damage



Pit holes

The RS-C Clamp is designed for pipes of DN 20 up to and including DN 200

RS-C clamps can be used as an economical alternative to RS-1 clamps, but only for local damages.

The clamps can be used to repair the following pipe types:

Ductile Iron (DI)
 PE coated steel

Cast Iron (CI)PVC*Steel (St.)GRP*

Asbestos Cement (AC)
 PE*

Available sizes:

RS-C clamps are available in several different working ranges for pipes of DN 20 up to and including DN 200. Please consult our price-list for more details on the working ranges.

Available lengths: 100 / 150 and 200 mm.

Pressure ratings:

Pressure ratings for water ** depend on the type of break or damage, pipe OD, medium etc.

In general, RS-C clamps can resist a working pressure of 16 bar for pipes up to DN 150 and 10 bar for pipes with DN > 150.

^{*} If pipe repair clamps are to be used on plastic pipes, please always contact Romacon or a Romacon distributor for more information regarding the application and restrictions on these pipe types.

^{**} Please contact Romacon or your distributor for more information regarding pressures on gas pipes.

- All metal parts: stainless steel AISI 304.
- Metal parts have been deburred and are passivated to restore the corrosion resistance to its original state after the welding process.
- Single band (one section) half circle clamp with a working range between 4 and 11 mm, depending on the diameter. For an overview of all working ranges please see our price-list.
- Standard certified rubber gaskets EPDM or NBR.
 The rubber is tapered and has a waffle pattern.
- U-shaped lifter bar.
- Stainless steel, electrolytic zinc plated nuts to prevent galling.
- Stainless steel washers.
- No loose parts that may get lost during installation.
- No special tools required: a simple wrench will do the job.
- Special tape is used to fix the rubber gasket to the stainless steel band. This tape is flexible and reinforced with glass fibre thread to withstand hot and humid conditions and guarantee a long storage capability.
- Under most circumstances the clamps can be installed without releasing the pressure on the pipe.
- The clamps are packed into strong double-rib cartons. For export overseas we use strong, seaworthy crates

Available rubber gaskets:

RS-C clamps can be supplied with the following types of rubber:

EPDM	– potable water – waste water	max 60 degr. C.
EPDM HT	- potable water - waste water	max 150 degr. C.
NBR	– natural gas – potable water – waste water	max 70 degr. C.
VITON	- several chemicals pls. contact HUWA	max 200 degr. C.

Our rubber gaskets are certified to European standards, such as ACS (France) and WRAS (UK).

Please contact us for a detailed list of current certifications.

REPAIR CLAMP TYPE RS-O

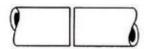
pipeline products for water, gas and industrial applications

Romacon stainless steel repair clamps style RS-O are used for permanent repairs of broken and damaged pipes

for water, gas and petrochemical fluids



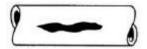
Following types of damage can be repaired:



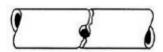
Pipe longitudinal connection



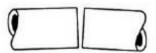
Damage due to broken pipes



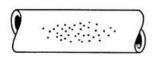
Longitudinal crack



Cracked pipe after hot tap



Misaligned pipes



Pit holes

The clamps can be used to repair the following pipe types:

Ductile Iron (DI)
 PE coated steel

Cast Iron (CI) - PVC*
 Steel (St.) - GRP*
 Asbestos Cement (AC) - PE*

* If pipe repair clamps are to be used on plastic pipes, please always contact Romacon or a Romacon distributor for more information regarding the application and restrictions on these pipe types.

Romacon repair clamps should be used under following conditions:

- For PVC pipes, the width of the clamps should be 50 % longer and bolt torque should be reduced by 50 %. We prefer that you consult your Romacon distributor.
- The maximum allowable distance between two pipe ends should not exceed 10 mm.
- The maximum allowable deflection is 2 degrees.
- The maximum allowable offset should not exceed 3 mm.

The RS-O repair clamp is in fact a small version of the RS-1 repair clamp, having a range of max. 4 mm. The clamp is used on pipes for which RS-1 clamps are not available due to the small pipe diameter.

RS-O is available for pipe nominal diameters 1/2" up to 2".

Available length 75, 100 and 150 mm

- All metal parts: stainless steel AISI 304.
- Metal parts have been deburred and are passivated to restore the corrosion resistance to its original state after the welding process.
- Single band (one section) with a working range of max. 4 mm. For an overview of all working ranges please see our price-list.
- Standard certified rubber gaskets EPDM or NBR.
 The rubber is tapered and has a waffle pattern.
- Seamless rubber lining for every clamp diameter.
- Bridge plate is vulcanized into the rubber gasket.
- U-shaped lifter bar.
- Stainless steel, electrolytic zinc plated nuts to prevent galling.
- · Stainless steel washers.
- No loose parts that may get lost during installation.
- No special tools required: a simple wrench will do the job.
- Special tape is used to fix the rubber gasket to the stainless steel band. This tape is flexible and reinforced with glass fibre thread to withstand hot and humid conditions and guarantee a long storage capability.
- Under most circumstances the clamps can be installed without releasing the pressure on the pipe.
- The clamps are packed into strong double-rib cartons. For export overseas we use strong, seaworthy crates



The vulcanized bridge plate guarantees a leakproof sealing

Available sizes:

RS-O clamps are available in several different working ranges from 19-23 to 60-64. Please consult our price-list for more details on the working ranges. Available lengths: 75, 100 and 150 mm.

Pressure ratings:

Pressure ratings for water ** depend on the type of break or damage, pipe OD, medium etc.
In general, RS-O clamps can resist a working pressure of 16 bars.

** Please contact Romacon or your distributor for more information regarding pressures on gas pipes.

Available rubber gaskets:

RS-O clamps can be supplied with the following types of rubber:

EPDM	– potable water – waste water	max 60 degr. C.
NBR	– natural gas – potable water – waste water	max 70 degr. C.

Our rubber gaskets are certified to European standards, such as ACS (France) and WRAS (UK).
Please contact us for a detailed list of current certifications.

REPAIR CLAMP TYPE RS-1

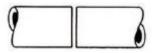
pipeline products for water, gas and industrial applications

Romacon stainless steel repair clamps style RS-1 are used for permanent repairs of broken and damaged pipes

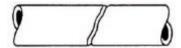
for water, gas and petrochemical fluids



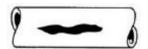
Following types of damage can be repaired:



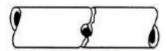
Pipe Longitudinal connection



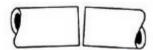
Damage due to broken pipes



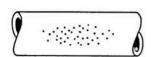
Longitudinal cracks



Cracked pipe after hot tap



Misaligned pipes



Pit holes

The clamps can be used to repair the following pipe types:

Ductile Iron (DI)PE coated steel

Cast Iron (CI)
 Steel (St.)
 Asbestos Cement (AC)
 PE*

* If pipe repair clamps are to be used on plastic pipes, please always contact Romacon or a Romacon distributor for more information regarding the application and restrictions on these pipe types.

Romacon repair clamps should be used under following conditions:

- The width of the clamp should be equal to at least the pipe OD.
- The width of the clamp should be 150 mm greater than the length of any crack on pipes with an outside diameter up to 350 mm.

 On larger pipes this should be at least 200 mm.
- For PVC pipes, the width of the clamps should be 50 % longer and bolt torque should be reduced by 50 %. We prefer that you consult your Romacon distributor.
- The maximum allowable distance between two pipe ends should not exceed 10 mm.
- The maximum allowable deflection is 2 degrees.
- The maximum allowable offset should not exceed 3 mm.

- All metal parts: stainless steel AISI 304 or AISI 316L.
- Metal parts have been deburred and are passivated to restore the corrosion resistance to its original state after the welding process.
- Single band (one section) with a working range of 7-11 mm depending on the diameter. For an overview of all working ranges please see our price-list.
- Standard certified rubber gaskets EPDM or NBR. The rubber is tapered and has a waffle pattern.
- Seamless rubber lining for every clamp diameter.
- Bridge plate is vulcanized into the rubber gasket.
- U-shaped lifter bars.
- Stainless steel, electrolytic zinc plated nuts to prevent galling.
- · Stainless steel washers.
- No loose parts that may get lost during installation.
- No special tools required: a simple wrench will do the job.
- Special tape is used to fix the rubber gasket to the stainless steel band. This tape is flexible and reinforced with glassfibre thread to withstand hot and humid conditions and guarantee a long storage capability.
- Under most circumstances the clamps can be installed. without releasing the pressure on the pipe.
- The clamps are separately packed into strong double-rib cartons. For export overseas we use strong, seaworthy crates.

Other:



Also available with grip for easier installation.



The vulcanized bridge plate guarantees a leakproof sealing.

Available sizes:

RS-1 clamps are available in many different working ranges for pipes of DN 40 - DN 350. Please consult our price-list for more details on the working ranges. Available lengths: 150 / 200 / 250 / 300 / 400 / 500 / 600 mm.

Pressure ratings:

Pressure ratings for water ** depends on the type of break or damage, pipe OD, medium etc.
Pipe DN 40 up to and including DN 150: 16 bar
Pipe DN 175 up to and including DN 300: 10 bar
Our clamps can be modified to cope with higher working pressures.

** Please contact Romacon or your distributor for more information regarding pressures on gas pipes.

Available rubber gaskets:

RS-1 clamps can be supplied with the following types of rubber:

EPDM	– potable water – waste water	max 60 degr. C.
EPDM HT	– potable water – waste water	max 150 degr. C.
NBR	– natural gas – potable water – waste water	max 70 degr. C.
VITON	- several chemicals pls. contact HUWA	max 200 degr. C.

Our rubber gaskets are certified to European standards, such as ACS (France) and WRAS (UK).
Please contact us for a detailed list of current certifications.

REPAIR CLAMP TYPE RS-2

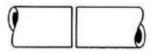
pipeline products for water, gas and industrial applications

Romacon stainless steel repair clamps style RS-2 are used for permanent repairs of broken and damaged pipes

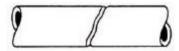
for water, gas and petrochemical fluids



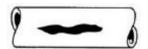
Following types of damage can be repaired:



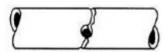
Pipe Longitudinal connection



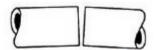
Damage due to broken pipes



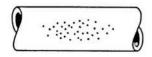
Longitudinal cracks



Cracked pipe after hot tap



Misaligned pipes



Pit holes

The clamps can be used to repair the following pipe types:

Ductile Iron (DI)
 PE coated steel

Cast Iron (CI)
 Steel (St.)
 Asbestos Cement (AC)
 PE*

* If pipe repair clamps are to be used on plastic pipes, please always contact Romacon or a Romacon distributor for more information regarding the application and restrictions on these pipe types.

Romacon repair clamps should be used under following conditions:

- The width of the clamp should be at least equal to the pipe OD.
- The width of the clamp should be 150 mm greater than the length of any crack on pipes with an outside diameter up to 350 mm.

 On larger pipes this should be at least 200 mm.
- For PVC pipes, the width of the clamps should be 50 % longer and bolt torque should be reduced by 50 %. We prefer that you consult your Romacon distributor.
- The maximum allowable distance between two pipe ends should not exceed 10 mm.
- The maximum allowable deflection is 2 degrees.
- The maximum allowable offset should not exceed 3 mm.

- All metal parts: stainless steel AISI 304 or AISI 316L.
- Metal parts have been deburred and are passivated to restore the corrosion resistance to its original state after the welding process.
- Double band (two sections) with a working range of 20–22 mm depending on the diameter. For an overview of all working ranges please see our price-list.
- Standard certified rubber gaskets EPDM or NBR. The rubber is tapered and has a waffle pattern.
- Seamless rubber lining for every clamp diameter.
- Bridge plates are vulcanized into the rubber gasket.
- U-shaped lifter bars.
- Stainless steel, electrolytic zinc plated nuts to prevent galling.
- · Stainless steel washers.
- No loose parts that may get lost during installation.
- No special tools required: a simple wrench will do the job.
- Special tape is used to fix the rubber gasket to the stainless steel band. This tape is flexible and reinforced with glassfibre thread to withstand hot and humid conditions and guarantee a long storage capability.
- Under most circumstances the clamps can be installed. without releasing the pressure on the pipe.
- The clamps are separately packed into strong double-rib cartons. For export overseas we use strong, seaworthy crates.

Other:



Also available with grip for easier installation.



The vulcanized bridge plate guarantees a leakproof sealing

Available sizes:

RS-2 clamps are available in many different working ranges for pipes of DN 80 - DN 800. Please consult our price-list for more details on the working ranges. Available lengths: 200 / 250 / 300 / 400 / 500 / 600 mm.

Pressure ratings:

Pressure ratings for water ** depends on the type of break or damage, pipe OD, medium etc.
Pipe DN 80 up to and including DN 150: 16 bar
Pipe DN 175 up to and including DN 500: 10 bar
Our clamps can be modified to cope with higher working pressures.

** Please contact Romacon or your distributor for more information regarding pressures on gas pipes.

Available rubber gaskets:

RS-2 clamps can be supplied with the following types of rubber:

EPDM	– potable water – waste water	max 60 degr. C.
EPDM HT	– potable water – waste water	max 150 degr. C.
NBR	– natural gas – potable water – waste water	max 70 degr. C.
VITON	- several chemicals pls. contact HUWA	max 200 degr. C.

Our rubber gaskets are certified to European standards, such as ACS (France) and WRAS (UK).
Please contact us for a detailed list of current certifications.

REPAIR CLAMP TYPE RS-3

pipeline products for water, gas and industrial applications

Romacon stainless steel repair clamps style RS-3 are used for permanent repairs of broken and damaged pipes

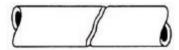
for water, gas and petrochemical fluids



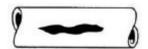
Following types of damage can be repaired:



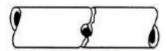
Pipe Longitudinal connection



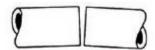
Damage due to broken pipes



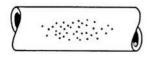
Longitudinal cracks



Cracked pipe after hot tap



Misaligned pipes



Pit holes

The clamps can be used to repair the following pipe types:

Ductile Iron (DI)PE coated steel

Cast Iron (CI)
 Steel (St.)
 Asbestos Cement (AC)
 PE*

* If pipe repair clamps are to be used on plastic pipes, please always contact Romacon or a Romacon distributor for more information regarding the application and restrictions on these pipe types.

Romacon repair clamps should be used under following conditions:

- The width of the clamp should be at least equal to the pipe OD.
- The width of the clamp should be 150 mm greater than the length of any crack on pipes with an outside diameter up to 350 mm.

 On larger pipes this should be at least 200 mm.
- For PVC pipes, the width of the clamps should be 50 % longer and bolt torque should be reduced by 50 %. We prefer that you consult your Romacon distributor.
- The maximum allowable distance between two pipe ends should not exceed
 10 mm
- The maximum allowable deflection is 2 degrees.
- The maximum allowable offset should not exceed 3 mm.

- All metal parts: stainless steel AISI 304 or AISI 316L.
- Metal parts have been deburred and are passivated to restore the corrosion resistance to its original state after the welding process.
- Triple band (three sections) with a working range of 30-33 mm depending on the diameter. For an overview of all working ranges please see our price-list.
- Standard certified rubber gaskets EPDM or NBR. The rubber is tapered and has a waffle pattern.
- Seamless rubber lining for every clamp diameter.
- Bridge plates are vulcanized into the rubber gasket.
- U-shaped lifter bars.
- Stainless steel, electrolytic zinc plated nuts to prevent galling.
- · Stainless steel washers.
- No loose parts that may get lost during installation.
- No special tools required: a simple wrench will do the job.
- Special tape is used to fix the rubber gasket to the stainless steel band. This tape is flexible and reinforced with glassfibre thread to withstand hot and humid conditions and guarantee a long storage capability.
- Under most circumstances the clamps can be installed without releasing the pressure on the pipe.
- The clamps are separately packed into strong double-rib cartons. For export overseas we use strong, seaworthy crates.

Other:



Also available with grip for easier installation.



The vulcanized bridge plate guarantees a leakproof sealing

Available sizes:

RS-3 clamps are available in many different working ranges for pipes of DN 250 - DN 1000. Please consult our price-list for more details on the working ranges. Available lengths: 300 / 400 / 500 / 600 mm. Other lengths possible on request.

If you need to repair larger pipes we can offer 4 band or 5 band clamps. Please contact us for more information.

Pressure ratings:

Pressure ratings for water ** depend on the type of break or damage, pipe OD, medium etc.

Pipe DN 250 up to and including DN 500: 10 bar

Pipe DN 500 and DN 600: 6 bar

Pipe DN 700: 4 bar and Pipe DN 800: 2 bar.

Please consult our price-list for working pressures of larger pipe od's. Our clamps can be modified to cope with higher working pressures.

** Please contact Romacon or your distributor for more information regarding pressures on gas pipes.

Available rubber gaskets:

RS-3 clamps can be supplied with the following types of rubber:

EPDM	- potable water - waste water	max 60 degr. C.
EPDM HT	– potable water – waste water	max 150 degr. C.
NBR	– natural gas – potable water – waste water	max 70 degr. C.
VITON	- several chemicals pls. contact HUWA	max 200 degr. C.

Our rubber gaskets are certified to European standards, such as ACS (France) and WRAS (UK).
Please contact us for a detailed list of current certifications.

EMERGENCY REPAIR SET

pipeline products for water, gas and industrial applications

Romacon stainless steel Emergency Repair sections are used for the permanent repair of damaged pipes



for water, gas and petrochemical fluids

Application:

The function of the Emergency repair set is to reduce the stock that has to be carried by the water companies and to improve the availability of clamps in case of emergency repairs.

Especially for larger repair clamps that are relatively seldom used, it is convenient to have the combi repair clamp available so that any required clamp with a diameter between 91 and 780 mm can be assembled from the sections of the combi repair clamp.

The sections are packed in a wooden crate and each time that two or more sections are used, the used sections can be re-ordered to complete the crate for the next emergency.

The sections, which increase in size, are marked A.B.C.D and E.

Standard length is 400 mm

Clamp combinations:

Use the table on the second page on the right to find the right combination of clamp sections for the range you need.

Working pressure:

The pressure for which the clamp can be used varies with the number of sections, pipe diameter, medium etc. Use the following table as a guide:

Nominal working pressure under ideal circumstances.

pipe od	for water	for gas
91-271	16 Bar	6 Bar
272-374	10 Bar	4 Bar
365-545	10 Bar	3 Bar
546-632	6 Bar	1 Bar
632-669	4 Bar	0,5 Bar
669-780	2 Bar	0,5 Bar

Available rubber gaskets:

Romacon-ERS clamps can be supplied with the following types of rubber:

EPDM	– potable water – waste water	max 60 degr. C.
EPDM HT	– potable water – waste water	max 150 degr. C.
NBR	– natural gas – potable water – waste water	max 70 degr. C.
VITON	- several chemicals pls. contact HUWA	max 200 degr. C.

Our rubber gaskets are certified to European standards, such as ACS (France) and WRAS (UK).
Please contact us for a detailed list of current certifications.

CLAMP COMBINATIONS

RS-1 (one part):

Part	Length	Clamp Length	Rar	nge
	Plate		Min. OD	Max. OD
Α	317	400 / 500 / 600	91	98
В	383	400 / 500 / 600	111	121
С	446	400 / 500 / 600	131	141
D	543	400 / 500 / 600	162	172
E	637	400 / 500 / 600	193	203

RS-2 (two parts):

Part	Combined	Length	Clamp Length	Rar	nge
	with	Plate		Min. OD	Max. OD
Α	В	700	400 / 500 / 600	213	233
	С	763	400 / 500 / 600	233	253
	D	860	400 / 500 / 600	264	284
	E	954	400 / 500 / 600	295	315
В	С	829	400 / 500 / 600	253	273
	D	926	400 / 500 / 600	284	304
	E	1020	400 / 500 / 600	314	334
С	D	989	400 / 500 / 600	304	324
	E	1083	400 / 500 / 600	335	355
D	E	1180	400 / 500 / 600	366	386

RS-3 (three parts):

Part	Combined	Length	Clamp Length	Rar	ige
	with	Plate		Min. OD	Max. OD
Α	B and C	1146	400 / 500 / 600	354	384
	B and D	1243	400 / 500 / 600	386	416
	B and E	1337	400 / 500 / 600	416	446
	C and D	1306	400 / 500 / 600	406	436
	C and E	1400	400 / 500 / 600	436	466
	D and E	1497	400 / 500 / 600	467	497
В	C and D	1327	400 / 500 / 600	426	456
	C and E	1466	400 / 500 / 600	456	486
	D and E	1563	400 / 500 / 600	487	517
С	D and E	1626	400 / 500 / 600	508	538

RS-4 (four parts):

Part	Combined	Length	Clamp Length	Range	
	with	Plate		Min. OD	Max. OD
Α	B,C and D	1689	400 / 500 / 600	527	567
	B,C and E	1783	400 / 500 / 600	558	598
	B,D and E	1880	400 / 500 / 600	589	629
С	D,E and A	1327	400 / 500 / 600	609	649
В	C,D and E	1626	400 / 500 / 600	629	669

RS-5 (five parts):

	Part	Combined	Length	Clamp Length	Range	
		with	Plate		Min. OD	Max. OD
Г	Α	B,C,D and E	2326	400 / 500 / 600	730	780

INTERNAL REPAIR CLAMP

pipeline products for water, gas and industrial applications

Romacon internal repair clamps are used for permanent repairs of broken and damaged pipes from the inside.

for water, gas and petrochemical fluids



The Romacon internal repair clamp offers a cost & labour effective permanent repair solution for the renewal of leaking pipes, in order to conserve water and to protect the environment.

The problem:

Leakage of pipe joints in the stormwater and sewage watertransportation is a known – and costly fact! The consequences of water loss result in increased pumping & energy cost, including maintenance and lost revenues. Sewage leakage will not only contaminate the surroundings but the waste is also not being transported for proper treatment.

The solution:

In order to resolve these damaging liabilities concering the ecology, Romacon has found a very simple and functional method, after a two year research program. An ingenious, internal stainless steel repair clamp which is suitable for waste water piping has been designed and tested.

The application:

The Romacon internal repair clamp can be installed inside pipes of various materials. -20 inch / 500 mm. - or larger - and a safe operating pressure can be exercised up to 240 psi / 16 bar. The special profile on the external side of the rubber gasket will ensure a complete sealing surface between the expansion sections and the pipeline to be repaired. All the metal components for this simplified internal sealing procedure are made of stainless steel 316L quality material and are fully passivated.

A very solid and functional expansion system takes care of the proper distribution of the forces on the rubber seal, so that a perfect sealing wil be created.

During the installation of the stainless steel sections one only has to use a screwdriver and a ratchet wrench. In other words, no complicated and costly equipment or installation time is required. The Romacon internal repair clamp has a low amount of parts and is light weight which is an appreciated and welcome feature during installing expansion

By selecting an ultra-low profile internal construction system, the optimum water flow characteristics can be maintained.

SPLIT BARREL

The Romacon split barrel repair clamp is used to repair leaking couplings, broken AC couplings, leaking bell joint connections and high pressure pipes.

With the split barrel repair clamp it is possible to repair the pipe without removing the broken coupling.

Furthermore it can be easily installed even under rough and wet conditions. No special tools are needed, only a torque wrench.

The clamp is suitable for pressures up to 40 bar and on pipes with a diameter up to 1500 mm and length up to 5.000 mm.



Description and material specifications

- Material: stainless steel aisi 304/316.
- Bolts and nuts: Stainless steel aisi 304/316 with PTFE coating to avoid galling.
- Rubber gaskets: NBR or EPDM. Axial gaskets are seated in grooves in each half of the split barrrel. Restraint strips are welded in to prevent the rubber from flowing out during installation. The initial radial seal is obtained by tightening the end bolts at each end of the barrel.
- Depending on the size and weight of the product, a hinge construction will be provided to lift the split barrel over the pipe.
- A vent is installed for testing purpose and to enable the medium to escape during installation. A suitable vent valve is not included.

How to order or request prices

Contact our sales department and fill out the "split barrel size request form". This form provides us with all the necessary details to make the quotation and, at a later stage, manufacture the product. We will need to know the pipe diameter, repair situation, pressure and medium as well as the required length.

If possible please provide us with a sketch or picture of the repair situation.







DRILLING SADDLE TYPE SSS

pipeline products for water, gas and industrial applications

Romacon stainless steel drilling saddle style SSS are used for making connections to valves, t-joints (branch pipes), shut-off valves, pipe and conduit fittings, etc.

for water, gas and petrochemical fluids



Application of the Romacon stainless steel drilling saddle:

The Romacon stainless steel drilling saddle can be supplied with special branch pipes (among others, POLVA and branch pipes with male and female threading).

Available sizes of the Romacon stainless steel drilling saddle:

The Romacon stainless steel drilling saddle can be supplied with branch sizes starting at 1/2" to 2". Special branch sizes can be supplied on request. The saddle can be supplied onwards from DN 80 to DN 350. We can also supply the required branch pipes for blow-forming equipment applications.

Details:







- All metal parts: stainless steel AISI 304 or AISI 316L.
- Metal parts have been deburred and are passivated to restore the corrosion resistance to its original state after the welding process.
- Double band (two sections) with a working range of 18-22 mm depending on the diameter. For an overview of all working ranges please see our price-list.
- Standard certified rubber gaskets in the upper scale is NBR, EPDM on request. This rubber is tapered and has a waffle pattern. Band gasket is always EPDM.
- · Seamless rubber lining for every clamp diameter.
- U-shaped lifter bars.
- Stainless steel, electrolytic zinc plated nuts to prevent galling.
- · Stainless steel washers.
- · No loose parts that may get lost during installation.
- No special tools required: a simple wrench will do the job.
- Under most circumstances the clamps can be installed without releasing the pressure on the pipe.

Available sizes:

SSS drilling saddles are available in many different working ranges for pipes of DN 80 - DN 350. Please consult our price-list for more details on the working ranges. Length: 150 mm.

Pressure ratings:

Pressure ratings for water ** depend on the type of break or damage, pipe OD, medium etc. Pipe DN 40 up to and including DN 150: 16 bar Pipe DN 175 up to and including DN 300: 10 bar

** Please contact Romacon or your distributor for more information regarding pressures on gas pipes.

Available rubber gaskets:

SSS drilling saddles can be supplied with the following types of rubber:

NBR	– natural gas – potable water – waste water	max 70 degr. C.
EPDM	– potable water – waste water	max 60 degr. C.

Our rubber gaskets are certified to European standards, such as ACS (France) and WRAS (UK).
Please contact us for a detailed list of current certifications.

TAPPING CLAMPS

pipeline products for water, gas and industrial applications

Romacon stainless steel tapping clamps are used to make permanent (hot) taps on different pipe types

for water, gas and petrochemical fluids





Romacon tapping clamps can be equipped with a threaded outlet up to 4". The clamp specifications are identical to the specifications of the Romacon standard repair clamps.

The standard outlets are threaded according to ISO/DIN or BSP. American CC or IP threads can be supplied upon request.

The clamps can be used to repair the following pipe types:

- Ductile Iron ((DI) -	PE coated steel

Cast Iron (CI)
 Steel (St.)
 Asbestos Cement (AC)
 PE*

* If pipe tapping clamps are to be used on plastic pipes, please always contact Romacon or a Romacon distributor for more information regarding the application and restrictions on these pipe types.

Size of the threaded outlet or nipple	Available on pipe Ø	Minimum width in mm
1/2 "	≥ 38mm	150
3/4 "	≥ 44mm	150
1 "	≥ 48mm	150
1 1/4 "	≥ 60mm	150
1 1/2"	≥ 60mm	200
2 "	≥ 82mm	200
2 1/2 " *	≥ 110mm	200
3 " *	≥ 130mm	300
4 " *	≥ 155mm	400

^{*} Only available on double band clamps, with a reinforced upper scale

- All metal parts: stainless steel AISI 304 or AISI 316L.
- Sockets and nipples are threaded according to ISO 7/DIN or BSP. Special designed outlets are available on request.
 Please contact your distributor.
- The outlets are 100 % air tested after welding.
- Metal parts have been deburred and are passivated to restore the corrosion resistance to its original state after the welding process.
- Single band (one section) or double band (two sections).

 For detailed working ranges please see our price-list.
- Standard certified rubber gaskets EPDM or NBR. The rubber is tapered and has a waffle pattern.
- · Seamless rubber lining for every clamp diameter.
- Bridge plate is vulcanized into the rubber gasket.
- U-shaped lifter bars.
- Stainless steel, electrolytic zinc plated nuts to prevent galling.
- Stainless steel washers.
- No loose parts that may get lost during installation.
- No special tools required: a simple wrench will do the job.
- Special tape is used to fix the rubber gasket to the stainless steel band. This tape is flexible and reinforced with glassfibre thread to withstand hot and humid conditions and guarantee a long storage capability.
- Under most circumstances the clamps can be installed without releasing the pressure on the pipe.

Available sizes:

- RS-1 tapping clamps are available from range 38-42. Available lengths: 150 / 200 / 250 / 300 / 400 / 500 / 600 mm.
- RS-2 tapping clamps are available from ranges 88-110. Available lengths: 200 / 250 / 300 / 400 / 500 / 600 mm.

Pressure ratings:

Pressure ratings for water ** depend on the type of break or damage, pipe OD, medium etc.

Pipe DN 40 up to and including DN 150: 16 bar

Pipe DN 175 up to and including DN 300: 10 bar

Our clamps can be modified to cope with higher working pressures.

** Please contact Romacon or your distributor for more information regarding pressures on gas pipes.

Available rubber gaskets:

Romacon clamps can be supplied with the following types of rubber:

EPDM	– potable water – waste water	max 60 degr. C.
EPDM HT	– potable water – waste water	max 150 degr. C.
NBR	– natural gas – potable water – waste water	max 70 degr. C.
Viton	- several chemicals pls contact HUWA	max 200 degr. C.

Our rubber gaskets are certified to European standards, such as ACS (France) and WRAS (UK).

Please contact us for a detailed list of current certifications.

TAPPING TEE TYPE SST

pipeline products for water, gas and industrial applications

Romacon stainless steel tapping tee type SST are used for permanent (hot) taps on several pipe types

for water, gas and petrochemical fluids



The SST is in fact a reinforced double band clamp with a flanged outlet. The standard working range is 20mm. The upper body is reinforced to accommodate the installation of valves and drilling equipment.

Design advantages offered by the SST tapping sleeve:

• Inventory reduction:

The built-in range of 20 mm alows one sleeve to fit various classes of steel, PVC, ductile iron, cast iron or asbestos-cement pipe.

• Easy installation:

No specially trained personnel or tools needed. A wrench to tighten bolts is the only tool required to install the sleeve.

• Full circumferentia seal:

Allows you to tap size on size with confidence. No more need for heavy, hard to assemble, cast iron sleeves.

• Material:

Stainless steel AISI 304 or 316 L.

• Light weight:

The high tensile strength of stainless steel allows us to manufacture the lightest tapping sleeve in the industry. easy to handle and less load on the pipe.

• Reinforces pipe:

Full circle design reduces stress on the pipe opposite of the tap.

- All metal parts: stainless steel AISI 304 or AISI 316L.
- Metal parts have been deburred and are passivated to restore the corrosion resistance to its original state after the welding process.
- Double band (two sections). For detailed working ranges please see our price-list.
- Standard certified rubber gaskets EPDM or NBR. The rubber is tapered and has a waffle pattern.
- · Seamless rubber lining for every clamp diameter.
- Bridge plates are vulcanized into the rubber gasket.
- U-shaped lifter bars.
- Stainless steel, electrolytic zinc plated nuts to prevent galling.
- · Stainless steel washers.
- No loose parts that may get lost during installation.
- No special tools required: a simple wrench will do the job.
- Special tape is used to fix the rubber gasket to the stainless steel band. This tape is flexible and reinforced with glassfibre thread to withstand hot and humid conditions and guarantee a long storage capability.
- The SST tapping sleeve is designed for under pressure drilling (hot taps).

Pressure ratings (for water):

Pressure ratings depend on the type of pipe, branch OD, medium etc. In general, SST tapping Tees are for use on pipes up to and including DN 600 mm and can resist a pressure of 16 bar. Please contact Romacon or your distributor for more information regarding pressures on gas pipes.

Flange design:

Flanges are drilled acc. to DIN 2576 and NEN 1092-1. The flange thickness is 24 mm for flanges up to DN 200 and 26 mm for flanges up to up to DN 300. Standard flanges are flat faced PN 10, but raised faced, ASA and PN 16 flanges are available upon request.

Depending on OD and flange size the branch can be supported by an additional reinforcement. Pipe and valve should always be supported according to standard codes of practice.

Size on size tapping sleeves require the use of an undersized shell cutter. Please ask your distributor for more information.

The SST sleeve can be used to repair the following pipe types:

- Ductile Iron (DI) - PE coated steel

Cast Iron (CI)
 Steel (St.)
 Asbestos Cement (AC)
 PE*

* If pipe repair clamps are to be used on plastic pipes, please always contact Romacon or a Romacon distributor for more information regarding the application and restrictions on these pipe types.

Available sizes:

SST tapping tee clamps are available for pipe diameters from DN 80 up to DN 800. Standard length: 500 mm.

Besides our standard program, we are able to manufacture any range or length that you may require.

Available rubber gaskets:

Romacon clamps can be supplied with the following types of rubber:

EPDM	– potable water – waste water	max 60 degr. C.
EPDM HT	– potable water – waste water	max 150 degr. C.
NBR	– natural gas – potable water – waste water	max 70 degr. C.
Viton	- several chemicals pls contact HUWA	max 200 degr. C.

Our rubber gaskets are certified to European standards, such as ACS (France) and WRAS (UK). Please contact us for a detailed list of current certifications.

DUCTILE TAPPING SADDLE (DTS)

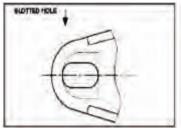
pipeline products for water, gas and industrial applications

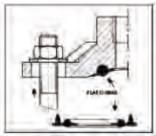
Romacon Ductile Tapping saddles are used to make permanent (hot) taps on existing or new pipe lines

for water and gas pipes

Characteristics of the DTS saddle

- Solid, well thought-out construction.
- High quality GGG 50 ductile iron.
- Produced according to DIN 3543, Part 1.
- Saddle is provided with epoxy coating, EWS epoxy according GSK-diridives RAL-G2-662 DVGW-W-270, which prevents rust.
- DVGW (G87 e 087) approved.
- Perfect seal through flat O-ring, which is enclosed in the chamber of the alignment saddle (see illustration). Through a special combination of O-ring and flat ring, a two-fold seal is obtained.
- Rubber for ring gasket is NBR.
- Applicable for various types of material, such as asbestos-cement, cast iron and steel.
- Very suitable for pipes covered with polyethylene. When the Romacon DTS Saddle is placed, the polyethylene layer does not have to be removed.
- Test report upon request.
- Wide, 100% stainless steel lower bracket.
- Lower bracket provided with a special rubber band
- Stainless steel, electrolytic zinc plated nuts, to prevent fretting.
- Saddles available from DN 40 up to including
- Suitable for alignments under pressure.







Applications of the Romacon DTS Saddle

The Romacon DTS Saddle can be used to make taps on all pipe types except PE for water and gas applications.

This saddle is ideal for pipes covered with polyethylene, but also fits old pipes perfectly.

Dimensions of the Romacon DTS Saddle

- The Romacon DTS Saddle can be supplied with a tapped service outlet of 1/2" up to and including 2".
- Special service outlets are available upon request.
- The Romacon DTS Saddle can be supplied from DN 40 up to and including DN 600.
- Strap width 60 mm
- Also available with branch according to Polva 1 1/2" to 2".

DN	Working
in mm	Range
40	44-57
50	58-72
60	72-82
80	82-102
80	88-108
100	106-130
125	129-158
150	159-186
175	184-210
200	211-244
225	235-255
250	264-298
300	315-358
325-600	On Request

OTHER SADDLE SOLUTIONS









LP COUPLING

pipeline products for water, gas and industrial applications

Romacon LP Couplings are designed for above ground connection of pipes

in bulk transport systems or pipe mail systems.



The coupling is suitable for negative pressures and pressures up to 3 bar. Couplings for higher pressures can be supplied on request.

Material specification:

The body consists of stainless steel AISI 304.
The tightening bars and bolts are made of galvanised steel.
M10 bolts with hexagon socket head screws.

If required, the coupling can be supplied with all parts made of stainless steel AISI 304 which makes the product suitable for underground applications.

Standard rubber quality is EPDM. Other grades are available on request.

Installation:

Maximum torque 45 Nm.

The locking bar is designed in such way that the nuts are locked during tightening.

The installation of the coupling is very easy. Just push the coupling over the pipe ends and fasten the bolts.

Disassembling the couplings is not necessary. There are no loose parts.

Available standard sizes:

Pipe DN: 65, 80, 100, 125, 150, 200 & 250 mm.

Length: 100, 150 & 200 mm.

Working range: About 2 mm on the outside pipe diameter.

Romacon stainless steel inserts are used to reinforce PE and PVC pipes from the inside to allow the use of compression couplings



Romacon inserts are designed to reinforce pipe ends by providing inside support for PE or PVC pipes when pipe couplings or flange adaptors are used for the connection of these pipes.

The inserts are supplied with a wedge to overcome the tolerances in the plastic pipes Its thin wall construction will not disturb the flow characteristics of the medium.

Inserts are made of stainless steel AISI 304.

PE pipe size	iengin
63 x 3,6	175
63 x 5,8-5,1	175
63 x 8,6	175
75 x 4,3	175
75 x 6,8-6,5	175
75 x 10,3	175
90 x 2,7-2,2	175
90 x 5,4-5,1	175
90 x 8,2-7,8	175
90 x 12,3	175
110 x 6,6-6,3	175
110 x 10,0-9,5	175
110 x 15,1	175
125 x 3,7-3,1	175
125 x 7,4-7,1	175
125 x 11,4	175

PF nine size | length

PE pipe size	length
140 x 12,8	175
140 x 8,0	175
160 x 4,5-3,9	200
160 x 9,5-9,1	200
160 x 14,6	200
180 x 6,0	200
180 x 10,7-10,2	200
180 x 16,4	200
200 x 6,9	200
200 x 11,9-11,4	200
200 x 18,2	200
225 x 6,3-5,5	225
225 x 13,4-12,8	225
225 x 20,5	225

PE pipe size	length
250 x 9,6	225
250 x 14,8-14,2	225
250 x 22,7	225
280 x 8,7	225
280 x 16,6-15,9	225
280 x 25,4	225
315 x 9,2	225
315 x 12,4	225
315 x 17,9	225
315 x 18,7	225
315 x 28,6	225

 $^{{}^*\} Please\ contact\ Romacon\ or\ a\ Romacon\ distributor\ for\ more\ information\ regarding\ bigger\ pipe\ size\ Inserts.$

TOOLS

pipeline products for water, gas and industrial applications



Torcofix K Torque Wrench:

Controlled screw tightening in the most widely used range of tightening on mechanical joints, repair clamps, sleeves, service saddles, tapping sleeves, flange bolts, couplings and hydrants with a range of 20-200 Nm or 15-150 lbf.

- For use in almost all industrial manufacturing areas.
- Release system triggers a tactile and audible signal for perfect installation
- Sturdy, satin chrome-plated tubular steel design, with chrome-plated ratched head and high-quality synthetic components.
- Dual scale Nm and lbf below a window with a magnifying glass effect.



Deep Socket Set:

The Deep Socket set contains 4 socket sizes that help to fasten the most common nut sizes on mechanical joints, repair clamps, sleeves, service saddles, tapping sleeves, flange bolts, couplings and hydrants.

Large diameter barrels make fast hand tightening easy. Operates with any 1/2" drive manual or impact wrench.

Deep sockets are available individually or in a set.

The Deep Socket set is also available with the Torcofix K Torque Wrench.



DoubleShot Wrench Set:

Double shot wrenches provide greater flexibility in dealing with the most common nut sizes that fasten mechanical joints, repair clamps, sleeves, service saddles, tapping sleeves, flange bolts, couplings and hydrants.

All of the DoubleShot wrenches have the "Bolt-Thru" design that lets bolts pass entirely through sockets and arm head so nuts can be secured on any threaded length. They are therefore perfect for installing all of our products.

DoubleShot wrenches are available individually or in sets.

- Designed specifically for pipeline, utility, maintenance and construction workers.
- Fluorescent orange sockets make the wrench harder to lose, and easier to find.
- Switch located in head reverses action safely and conveniently.
- Heavy duty stamped, riveted handle; sockets made of rugged cast metal. Both the handle and socket are coated with electrostatic epoxy paint for durability and easy cleaning.
- Each wrench is 34 cm long and weighs 1 kg.
- Vinyl grip makes working with this product comfortable and secure.
- Guaranteed against defects in material and workmanship for 1 year from delivery date.

OTHER PRODUCTS



Pipe cleaning strap:

Prepares surfaces prior to cutting and drilling.
Unique circular blades cut in every direction, allowing free movement of the strap.

The pipe cleaning strap is manufactured using anti static belting, which ensures safety when working on any pipeline especially those carrying inflammable materials. The cleaning strap is standard, is suitable for cleaning mains up to 12" diameter, however longer versions for larger diameter pipes are available upon request.

The user-friendly handles incorporate a shortening device, which allows the operator to reduce the length of the cleaning strap to suit the diameter of the main being cleaned. The handles incorporate a anti-spin handle which is kind to the operators hands.

Attached to the anti static belt is a number of specially hardened cleaning buttons.

Unlike other models, the Romacon pipe cleaning Strap incorporates cleaning teeth which are circular in design which enables each button to create a cutting action in **BOTH** directions cleaning the pipe quicker and easier than conventional models.

Each circular tooth will also revolve whilst cutting ensuring the full surface area of the tooth is utilised.

pipeline products for water, gas and industrial applications

The best connection for pipeline systems

Since Hegawa was founded in 2004, the company has become a major supplier of pipeline connection products to the water and gas, shipbuilding and building industries. We focus mainly on couplings, flange adaptors, dismantling joints and expansion joints.

Today, we supply products ranging from DN 50 to DN 3000 mm. This includes a range of standard products, such as the wide range and plus range up to DN 300 mm. We also deliver specially made products, such as gripping couplings and flange adaptors, dismantling joints and expansion joints up to DN 3000 mm.

Hegawa is your supplier of the complete range of pipeline connection products. We have over 25 years of experience in this business and have a deep understanding of the problems which occur in pipeline processes. We work together with our customers to find the best solutions for their challenges.

As part of the United Pipeline Products Group, we can supply a complete solution that will give our customers the advantages of having one supplier for all the connections they need.

Frits Berben, Managing Director Hegawa B.V.











For more information please visit our website www.hegawa.nl



fit to size couplings and flange adaptors for water and gas service (epoxy coated)



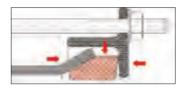
fit to size couplings and flange adaptors for the shipbuilding industry (galvanized)

STRAIGHT FIT TO SIZE COUPLINGS, FLANGE ADAPTORS AND REDUCING COUPLINGS

Hegawa straight fit to size couplings, flange adaptors and reducing couplings are manufactured to join most types of plain ended rigid pipes or to join a plain ended pipe to a flanged fitting, pipe or valve. Working pressures may vary from 10 to 40 bar, depending on application.

Flanges can be drilled to suit various international standards like ISO, DIN, BS and ANSI.

Available from DN 50 to DN 2500 mm.



A set of trackhead bolts are tightened moving the end-rings towards each other, compressing the wedge-shaped rubber gaskets in the space formed by the end-ring, the flared middlering and the pipe surface forming a long-term leak-proof seal. To assure long term sealing without any additional maintenance after the initial installation, the design of the components is of extreme importance. The most important component of the coupling is the rubber gasket. The material compound must be capable of retaining ultrahigh loading, extreme temperature variations, vibration, impact and flexing that can be caused by many variables in the pipeline system. The Hegawa gasket compound uniquely developed and engineered to resist all these conditions, when confined in properly designed metal components, guarantees long term performance on many type of sources, including natural gas, oil and under many extreme conditions.

Hegawa couplings are approved by German Lloyd's (GL) and American Bureau of Shipping (ABS).

Coupling materials

- High quality rolled steel to BS4360:1986 Grade 43A.
- Fusion bonded epoxy coating, thickness approx. 200 microns.
 A hot dipped galvanized coating or a transit primer is available on request.
- EPDM or NBR rubber gaskets.
- Bolts and nuts are made of steel BS970: Part1:1983 Grade 070 and are hot dipped galvanized.

Advantages

- The flexibility of the coupling easily absorbs an axial expansion or contraction of max. 10 mm. Flange adaptors can absorb an axial expansion or contraction of max. 5 mm.
- Maximum deflection of 6°.

- The couplings and flange adaptors can absorb vibrations.
- Long radius curves or slight bends can be laid without special bends.
- Accommodates deflection before, during or after installation and service.
- Accepts some disallignment in straight pipes.
- Easy installation, all you need is a spanner.
- A (removable) locating plug can be installed on request.

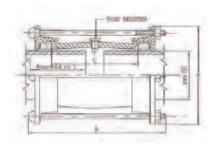
Please contact us for more technical information, installation instructions or technical drawings.

pipeline products for water, gas and industrial applications

HEGAWA FittoSize



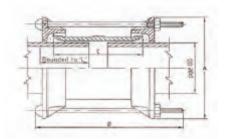
Pipe Couplings



DN mm	Pipe o.d. in mm	Tol. On o.d. for length L in mm	L mm	A mm	B mm	Sleeve C x av. Thicknesss in mm	Bolts & nuts Qty. x dia. x length	Weight kg	WP bar
50	60,3	+/- 0,8	100	89	147	80 x 4,8	2 x M12 x 140 mm	2,5	46
65	76,1	+/- 0,8	100	155	172	100 X 6,0	2 x M12 x 165 mm	2,6	46
80	88,9	+/- 0,8	100	153	172	100 X 7,1	3 x M12 x 165 mm	3,2	46
100	114,3	+/- 0,8	100	178	172	100 X 7,1	3 x M12 x 165 mm	3,3	46



Pipe Couplings

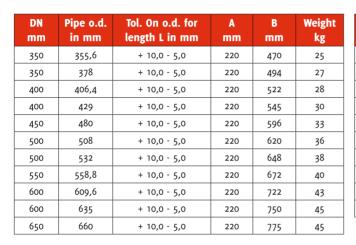


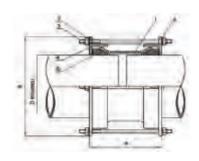
DN mm	Pipe o.d. in mm	Tol. On o.d. for length L in mm	L mm	A mm	B mm	Sleeve C x av. Thicknesss in mm	Bolts & nuts Qty. x dia. x length	Weight kg	WP bar
125	139,7	+ 1,6 - 0,8	100	228	175	100 X 6	4 x M12 x 165 mm	4,8	46
150	168,3	+ 1,6 - 0,8	100	256	175	100 X 6	4 x M12 x 165 mm	8,6	37
200	219,1	+ 1,6 - 0,8	100	313	175	100 X 6	6 x M12 x 165 mm	10,9	36
250	273,1	+ 1,6 - 0,8	100	370	175	100 X 6	6 x M12 x 165 mm	13,3	35
300	323,9	+ 1,6 - 0,8	100	421	175	100 X 6	6 x M12 x 165 mm	15,3	35
350	355,6	+ 2,4 - 0,8	150	452	239	150 X 6	6 x M12 x 165 mm	18	26
400	406,4	+/- 1,6	150	503	239	150 X 6	8 x M12 x 230 mm	20	26
450	457,2	+/- 1,6	150	554	239	150 X 6	8 x M12 x 230 mm	24	26
500	508	+/- 1,6	150	605	239	150 X 6	10 X M12 X 230 mm	25	26
550	558,8	+/- 1,6	150	655	239	150 X 6	10 X M12 X 230 mm	30	26
600	609,6	+/- 1,6	150	707	239	150 X 6	10 X M12 X 230 mm	32	24
650	660,4	+/- 1,6	150	757	239	150 X 6	12 X M12 X 230 mm	42	24
700	711,2	+/- 1,6	150	812	240	150 X 6	14 X M12 X 230 mm	47	24
800	812,8	+/- 1,6	150	914	240	150 X 6	14 X M12 X 230 mm	53	20
900	914,4	+/- 1,6	150	1015	265	150 X 6	16 x M12 x 230 mm	56	20
1000	1016	+/- 1,6	150	1117	265	150 X 6	18 x M12 x 230 mm	71	16
1200	1219,2	+/- 1,6	150	1346	265	150 X 6	22 X M12 X 230 mm	118	16

HEGAWA FittoSize



Pipe Couplings



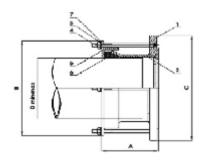


DN mm	Pipe o.d. in mm	Tol. On o.d. for length L in mm	A mm	B mm	Weight kg
700	711,2	+ 10,0 - 5,0	220	825	52
700	732	+ 10,0 - 5,0	220	854	54
800	812,8	+ 10,0 - 5,0	220	925	65
800	842	+ 10,0 - 5,0	220	958	67
900	914,4	+ 10,0 - 5,0	220	1030	80
900	945	+ 10,0 - 5,0	220	1060	82
1000	1016	+ 10,0 - 5,0	220	1130	94
1000	1048	+ 10,0 - 5,0	220	1160	96
1200	1220	+ 10,0 - 5,0	320	1230	112
1200	1255	+ 10,0 - 5,0	320	1260	114



Flange Adaptors

DN mm	Pipe o.d. in mm	Tol. On o.d. for length L in mm	A mm	B mm	C mm	Weight kg
350	355,6	+ 10,0 - 5,0	220	470	505	32
350	378	+ 10,0 - 5,0	220	494	505	30
400	406,4	+ 10,0 - 5,0	220	522	565	37,5
400	429	+ 10,0 - 5,0	220	545	565	35
450	480	+ 10,0 - 5,0	220	596	610	42,5
500	508	+ 10,0 - 5,0	220	620	670	48
500	532	+ 10,0 - 5,0	220	648	670	44,5
600	609,6	+ 10,0 - 5,0	220	722	780	62
600	635	+ 10,0 - 5,0	220	750	780	57
700	711,2	+ 10,0 - 5,0	220	825	895	81,5



DN mm	Pipe o.d. in mm	Tol. On o.d. for length L in mm	A mm	B mm	C mm	Weight kg
700	732	+ 10,0 - 5,0	220	854	895	70
800	812,8	+ 10,0 - 5,0	220	925	1015	100
800	842	+ 10,0 - 5,0	220	958	1015	91
900	914,4	+ 10,0 - 5,0	220	1030	1115	116,5
900	945	+ 10,0 - 5,0	220	1060	1115	104
1000	1016	+ 10,0 - 5,0	220	1130	1230	137,5
1000	1048	+ 10,0 - 5,0	220	1160	1230	125,5
1200	1220	+ 10,0 - 5,0	320	1230	1330	178
1200	1255	+ 10,0 - 5,0	320	1260	1330	163

pipeline products for water, gas and industrial applications





HEGAWA FASTFIT

WIDE RANGE

The Hegawa FastFit Wide Range products offer the possibility to cover a much larger diameter range than in the past. More pipe materials can be jointed whether in steel, ductile iron, cast iron, asbestos cement, PVC or almost any other rigid pipe material.

Pipe Couplings

DN mm	DN inches	Range	Weight kg
50	2	59-73	3,8
65	2,5	72-85	4,3
80	3	88-103	4,5
100	4	108-128	5,6
125	5	132-146	6,8
125	5	139-153	6,9
150	6	159-182	8,5
175	7	192-209	9,2
200	8	218-235	9,8
225	9	250-267	12,3
250	10	271-289	14,3
300	12	322-340	16,2

Flange Adaptors

DN mm	DN inches	Range	Weight kg
50	2	59-73	3,6
65	2,5	72-85	4,3
80	3	88-103	4,8
100	4	108-128	5,1
125	5	132-146	6,7
125	5	139-153	6,8
150	6	159-182	8,0
175	7	192-209	8,9
200	8	218-235	9,5
225	9	250-267	11,4
250	10	271-289	14,4
300	12	322-340	18,0

Material

High quality ductile iron GGG 450-10.

Coating

Epoxy coating, providing a long term corrosion protection along with resistance to abrasion and impact.

Other coatings are available on request.

Bolts and nuts

High grade Steel 8.8 fasteners, coated with Dacromet[™] Grade B 500. Dacromet[™] coating is based on zinc and aluminium flakes that are passivated throughout the entire layer providing excellent anticorrosion characteristics.

Stainless steel bolts and nuts are available on request

Rubber gaskets

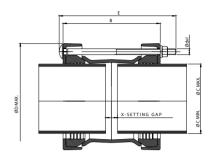
EPDM Grade E / WA as per BS EN 681-1:1996. NBR gaskets are available on request.

Features

- Working pressures up to 16 bars.
- Angular deflection 6° for couplings.
- DIN, BS and ANSI in one flange design.

HEGAWA *FASTFIT* WIDE RANGE

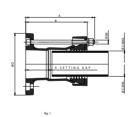


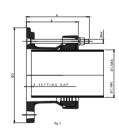


Pipe Couplings

Coupling	Coupling Range Ø C		Sleeve	Bolts		В	Ø D	E	<u> </u>	(Weight	
Туре	Min. mm	Max. mm	L. mm	No. mm	D mm	l mm	mm	mm	mm	Min. mm	Max. mm	kg
DN50-2"	59	73	100	4	M 12	170	154	153	197	20	30	3,8
DN65-2,5"	72	85	100	4	M 12	170	154	166	197	20	30	4,3
DN80-3"	88	103	100	4	M 12	170	154	185	197	20	30	4,5
DN100-4"	108	128	100	4	M 12	190	163	211	197	20	30	5,6
DN125-5"	132	146	100	4	M 12	190	163	237	197	20	30	6,8
DN125-5"	139	154	100	4	M 12	190	163	237	197	20	30	6,9
DN150-6"	159	182	100	4	M 12	190	163	274	197	20	30	8,5
DN175-7"	192	209	100	4	M 12	190	163	299	197	20	30	9,2
DN200-8"	218	235	100	4	M 12	190	163	323	197	20	30	9,8
DN225-9"	250	267	100	6	M 12	190	163	362	197	20	30	12,3
DN250-10"	271	289	100	6	M 12	190	163	390	197	20	30	14,3
DN300-12"	322	340	100	6	M 12	190	163	401	197	20	30	16,2







Flange Adaptors

Coupling	Rang	e Ø C	et.		Bolts		A	В	ØΒ	2	K	Weight
Туре	Min. mm	Max. mm	Fig.	No. mm	D mm	l mm	mm	mm	mm	Min. mm	Max. mm	kg
DN50-2"	59	73	1	4	M 12	130	139	125	165	50	60	3,6
DN65-2,5"	72	85	1	4	M 12	130	139	125	185	50	60	4,3
DN80-3"	88	103	2	4	M 12	120	129	100	220	10	30	4,8
DN100-4"	108	128	2	4	M 12	120	129	105	225	10	35	5,1
DN125-5"	132	146	2	4	M 12	120	131	105	285	10	35	6,7
DN125-5"	139	154	2	4	M 12	120	131	105	285	10	35	6,8
DN150-6"	159	182	2	4	M 12	120	131	105	286	10	30	8,0
DN175-7"	192	209	2	4	M 12	120	131	105	340	10	35	8,9
DN200-8"	218	235	2	4	M 12	120	131	105	340	10	30	9,5
DN225-9"	250	267	2	6	M 12	120	131	115	405	10	35	11,4
DN250-10"	271	289	2	6	M 12	120	134	115	405	10	35	14,4
DN300-12"	322	340	2	6	M 12	120	134	115	482	10	35	18,0

pipeline products for water, gas and industrial applications





HEGAWA FASTFIT plus PLUS RANGE

Hegawa Plus Range products have an outside diameter range of up to 34 mm. This means within every nominal size nearly all outside pipe diameters can be joined, whether in steel, ductile iron, cast iron, asbestos cement, PVC or almost any other rigid pipe material.

Pipe Couplings

DN mm	DN inches	Range	Weight
50	2	43-64	6,4
65	2,5	63-84	7,8
80	3	85-107	9,5
100	4	107-134	13
125	5	132-160	14,5
150	6	159-192	20,7
175	7	192-227	22,4
200	8	218-252	25,4
250	10	266-300	31,8
300	12	315-350	36,7

Flange Adaptors

DN mm	DN inches	Range	Weight
50	2	43-64	4,4
65	2,5	63-84	5,5
80	3	85-107	7,4
100	4	107-134	10,8
125	5	132-160	11,6
150	6	159-192	17,8
175*	7	192-227	24,3
200	8	218-252	26,3
250	10	266-300	31,4
300	12	315-350	38,5

^{*} Flange size DN 200

Sleeve length for couplings is 200 mm

Material

High quality ductile iron GGG 450-10.

Coating

High Quality epoxy, providing a long term corrosion protection along with resistance to abrasion and impact.

Other coatings are available on request.

Bolts and nuts

High grade Steel 8.8 fasteners, coated with Dacromet[™] Grade B 500. Dacromet[™] coating is based on zinc and aluminium flakes that are passivated throughout the entire layer providing excellent anticorrosion characteristics.

Stainless steel bolts and nuts are available on request.

Rubber gaskets

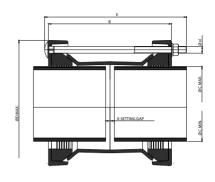
EPDM Grade E / WA as per BS EN 681-1:1996. NBR Rubber is available on request.

Features

- Working pressures up to 16 bars.
- Angular deflection 6° for couplings.
- DIN, BS and ANSI in one flange design.

HEGAWA FASTFIT plus PLUS RANGE



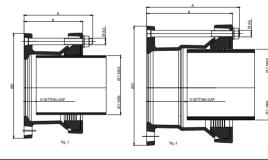


Pipe Couplings

Coupling	Rang	e Ø C	Sleeve		Bolts		В	Ø D	E	2	(Weight
Туре	Min. mm	Max. mm	L. mm	No. mm	D mm	l mm	mm	mm	mm	Min. mm	Max. mm	kg
DN50-2"	43	64	200	4	M 12	290	260	150	297	20	120	6,4
DN65-2,5"	63	84	200	4	M 12	290	260	174	297	20	120	7,8
DN80-3"	85	107	200	4	M 12	290	260	198	297	20	120	9,5
DN100-4"	107	134	200	4	M 16	320	270	240	328	20	110	13
DN125-5"	132	160	200	4	M 16	320	270	271	328	20	100	14,5
DN150-6"	158	192	200	4	M 16	320	288	316	328	20	100	20,7
DN175-7"	192	227	200	4	M 16	320	288	349	328	20	100	22,4
DN200-8"	218	252	200	4	M 16	320	288	372	328	20	100	25,4
DN250-10"	266	300	200	6	M 16	320	288	426	328	20	100	31,8
DN300-12"	315	350	200	6	M 16	320	288	471	328	20	105	36,7



Flange Adaptors



Coupling	Rang	e Ø C	et a		Bolts		A	В	Ø D	2	K	Weight
Туре	Min. mm	Max. mm	Fig.	No. mm	D mm	I mm	mm	mm	mm	Min. mm	Max. mm	kg
DN50-2"	43	64	1	4	M 12	120	128	110	165	20	40	4,4
DN65-2,5"	63	84	1	4	M 12	120	128	110	185	25	40	5,5
DN80-3"	85	107	2	4	M 12	165	175	158	200	60	90	7,4
DN100-4"	107	134	2	4	M 16	190	200	180	230	75	100	10,8
DN125-5"	132	160	1	4	M 16	160	170	145	274	30	65	11,6
DN150-6"	158	192	2	4	M 16	220	232	215	305	100	120	17,8
DN175-7"	192	227	1	4	M 16	220	232	215	345	30	115	24,3
DN200-8"	218	252	2	4	M 16	250	262	240	370	95	145	26,3
DN250-10"	266	300	2	6	M 16	270	282	260	415	120	165	31,4
DN300-12"	315	350	2	6	M 16	270	282	260	483	120	165	38,5

pipeline products for water, gas and industrial applications





HEGAWA FASTFITgrip COUPLINGS AND FLANGE ADAPTORS FOR PE / PVC PIPES

Introduction

Hegawa now introduces the new pull-out resistance "Fastfit Grip" pipe coupling and flange adaptors for PE and PVC pipes.

Technical concept

The coupling consists of a sleeve that is placed between two end-rings. Between end-rings and sleeve, grip rings, press rings and gaskets are positioned. The end-rings are pressed onto the sleeve when the bolts are tightened. The rubber gasket, pressed by the press ring and grip ring, then completely fills up the space between pipe and coupling.

Because of the strong compression and the high quality of the rubber gasket, the pressure on the ring that guarantees the leak tight sealing, will remain on the required quality level for many years.

By tightening the bolts the press ring and the grip ring will press the gasket inside, until the press ring makes contact with the sleeve. From then on the brass grip ring starts to reduce it's diameter, and the sharp profile of the grip ring starts to cut into the PE pipe. After the bolts are tightened, until a metal-metal contact is reached, the coupling is ready for use.

Features of the new Hegawa coupling

- Pre-assembled delivery of all types of couplings and adaptors (no dismantling is needed before use).
- A minimum of different parts.
- No special tools required.
- Nut protected against turning during tightening.
- No high skills needed to install properly.
- Metal to metal contact indicates a proper instalment.
 Over-tightening is not possible.
- PE pipes can easily be inserted by over-dimensioning of the grip ring and gasket inside diameter.
- Even at max. tolerance of the pipe diameter, no chamfer of pipe ends is needed.
- Designed for PE and PVC pipes.
- Flange adaptors follow DIN, BS, and Ansi PN 10/16. (for more details see our list).
- No support liner necessary for PE/PVC PN 10/16 quality.
- Only three bolts for sizes up to DN 110, four bolts for sizes up to 180, five bolts up to DN 280 and eight bolts up to DN 315.

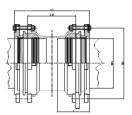
Material specification

- End rings, press rings, sleeves and adaptors are made of high quality ductile iron GGG 450-10.
- Grip rings: brass MS 58 up to including DN 300.
- Rubber gaskets: EPDM grade W.
- Bolts and nuts: Dacromet coated steel bolts.
 Stainless steel bolts in grade A2-70 are available on request.
- Coating: Dupont Alesta epoxy powder coating.

HEGAWA *FASTFITgrip* COUPLINGS AND FLANGE ADAPTORS FOR PE / PVC PIPES



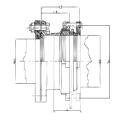




POD	D1 L1 L2 X Y		v			Weight			
РОБ	וע		L2	^	, ·	No.	D	L	kg.
63	130	214	130	90	6,5	6	M12	65	4,5
90	160	232	140	100	8,0	6	M12	65	6,5
110	180	241	146	105	8,5	6	M12	65	8,0
125	197	245	150	115	9,0	6	M12	65	9,5
160	235	272	174	115	10,5	8	M12	75	13,5
180	257	282	180	115	11,0	8	M12	75	16,0
225	306	309	200	125	11,0	10	M12	90	23,0
250	343	323	200	135	11,0	10	M12	90	36,5
280	375	332	200	140	12,0	10	M12	90	39,5
315	410	348	210	140	15,0	16	M12	90	46,5



Flange Adaptors



POD	Flange	D1 L3 L4 X Y		Bolts		Weight				
РОД	DN1	וע	13	L4	Λ	Y	No.	D	L	kg.
63	80	130	107	65	90	6,5	3	M12	65	4,5
90	80	160	115	70	100	8,0	3	M12	65	4,5
110	100	180	120	73	105	8,5	3	M12	65	5,0
125	100	197	158	110	115	9,0	3	M12	65	6,5
160	150	235	138	90	115	10,5	4	M12	75	8,5
180	150	257	176	125	115	11,0	4	M12	75	9,0
225	200	306	185	125	125	11,0	5	M12	90	12,5
250	250	343	192	130	130	11,0	5	M12	90	20,5
280	250	375	206	140	140	12,0	5	M12	90	20,5
315	300	410	219	150	140	15,0	8	M12	90	26,0

						F	ange In	fo					ANG
Flange ND	Pipe OD mm	F	PN				BS 10					ANSI 150	
	'''''	10	16	A			D	E	F		Н		150
DN8o 3"	63	+	+										+
DN80 3"	90	+	+										+
DN100 4"	110	+	+	+			+	+					+
DN100 4"	125	+	+	+			+	+					+
DN150 6"	160	+	+										+
DN150 6"	180	+	+										+
DN200 8"	225	+	+	+			+	+					+
DN250 10"	250	+	+					+					+
DN250 10"	280	+	+					+					+
DN300 12"	315	+	+										+

pipeline products for water, gas and industrial applications



Hegawa FittoSize Grip Flange Adaptor.



Hegawa FittoSize Grip Coupling.



Gripping element.

HEGAWA FittoSize Grip FITTOSIZE GRIP COUPLINGS, FLANGE ADAPTORS AND REDUCING COUPLINGS.

Introduction

Hegawa introduces a new range, pull-out resistant (locking), of FittoSize Couplings, Flange adaptors and Reducing couplings. These products are available from DN 350 u.t.i. DN 1400 mm and are suitable for use on steel, ductile/cast iron, PVC and PE pipes.

Design

The FittoSize Gripping range has been developed as an answer to the growing need for simple and high quality connection products to connect more types of pipe materials and to make it pull-out resistant at once.

The products are easy to install and no special tools are needed. Only a torque wrench is needed in order to get the necessary torque on the bolts. Installation can be done under all circumstances, even under wet conditions.

The FittoSize Gripping products are the simple and quick solution to all your repair needs of pipeline and laying of new pipelines.

Material specification:

Products are being made from steel i.e. St₃S to PN-EN 1563:2000.

Coating

High quality epoxy, providing a long term corrosion protection along with resistance to abrasion and impact. It's blue coloured.

Bolts and nuts:

Standard it will be delivered with steel galvanized bolts and nuts. On request the products can be delivered with stainless steel bolts and nuts.

Rubber gaskets:

EPDM to PN-92/C-01604.01.

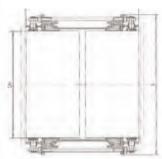
Gripping elements:

High quality gripping elements made from steel and galvanized.

Available with all flange drillings. Working pressures up to 16 bars.

HEGAWA FittoSize Grip FITTOSIZE COUPLINGS, FLANGE ADAPTORS AND REDUCING COUPLINGS









Pipe Couplings

DN mm	Range in mm	A mm	B mm	Weight kg
350 PE/PVC	345-360	320	465	31
350 Steel	350-365	320	470	28
350 Ductile	373-388	320	494	30
400 PE/PVC	395-410	320	504	32
400 Steel	400-416	320	522	31
400 Ductile	424-439	320	545	33
450 PE	445-460	320	562	31
450 Ductile	475-490	320	596	36
500 PE/PVC	495-510	320	604	39
500 Steel	503-518	320	620	39
500 Ductile	527-542	320	648	41
550 PE	555-570	320	676	45
600 PE/PVC	625-640	320	742	47
600 Steel	605-620	320	722	46
600 Ductile	630-645	320	750	48
700 PE/PVC	705-720	320	825	55
700 Steel	706-721	320	825	55
700 Ductile	733-748	320	854	57
800 PE/PVC	795-810	320	915	65
800 Steel	807-822	320	925	68
800 Ductile	837-852	320	958	70
900 PE/PVC	895-910	320	1030	79
900 Steel	909-924	320	1030	83
900 Ductile	940-955	320	1060	85
1000 PE/PVC	995-1010	320	1130	96
1000 Steel	1011-1026	320	1130	97
1000 Ductile	1043-1058	320	1160	99
1200 Steel	1215-1230	420	1230	115
1200 Ductile	1250-1265	420	1260	117

Flange Adaptors

DN mm	Range in mm	A mm	B mm	C mm	Weight kg
350 PE/PVC	345-360	270	465	505	31
350 Steel	350-365	270	470	505	32
350 Ductile	373-388	270	494	505	30
400 PE/PVC	395-410	270	504	565	38
400 Steel	400-416	270	522	565	38
400 Ductile	424-439	270	545	565	35
450 PE	445-460	270	568	610	38
450 Ductile	475-490	270	596	610	43
500 PE/PVC	495-510	270	604	670	48
500 Steel	503-518	270	620	670	48
500 Ductile	527-542	270	648	670	45
550 PE	555-570	270	676	780	52
600 PE/PVC	625-640	270	742	780	78
600 Steel	605-620	270	722	780	62
600 Ductile	630-645	270	750	780	57
700 PE/PVC	705-720	270	825	895	90
700 Steel	706-721	270	825	895	82
700 Ductile	733-748	270	854	895	70
800 PE/PVC	795-810	270	915	1015	96
800 Steel	807-822	270	925	1015	100
800 Ductile	837-852	270	958	1015	91
900 PE/PVC	895-910	270	1030	1115	107
900 Steel	909-924	270	1030	1115	117
900 Ductile	940-955	270	1060	1115	104
1000 PE/PVC	995-1010	270	1130	1230	131
1000 Steel	1011-1026	270	1130	1230	138
1000 Ductile	1043-1058	270	1160	1230	126
1200 Steel	1215-1230	370	1230	1330	180
1200 Ductile	1250-1265	370	1260	1330	165

pipeline products for water, gas and industrial applications



HEGAWA

Hegaflex - Flexible Pipe Coupling

Size	Range	Length	in mm		king e in bar	Max. gap in mm		
o.d. in mm	o.d. in mm	Short type	Long type	Short type	Long type	Short type	Long type	
21,7	21,0-22,0	60		16	16	8	8	
26,9	26,0-28,0	60		16	16	8	8	
33,7	33,0-35,0	60	100	16	16	8	16	
42,4	42,0-44,0	60	100	16	16	8	16	
48,3	47,5-49,5	60	100	16	16	8	16	
60,3	59,0-61,5	80	150	16	16	8	16	
63,0	62,0-64,0	80	150	16	16	15	30	
76,1	75,0-78,0	80	150	14	16	15	30	
88,9	88,0-91,0	110	200	14	16	15	30	
108,0	106,0-109,0	110	200	14	16	15	30	
114,3	113,0-116,0	110	200	14	16	15	30	
139,7	138,0-142,0	111	201	14	16	15	30	
159,0	156,0-161,0	111		12	16	15	30	
168,3	166,0-170,0	111	201	12	16	15	30	
219,1	216,5-221,5	150	250	8	12	15	30	
273,0	270,0-276,0	150	250	8	10	15	30	
323,9	322,0-328,0	150	250	7	8	15	30	
355,6	352,0-360,0	150	250	7	8	15	30	
406,4	402,0-410,0	150	250	6	6	15	30	
457,2	453,0-461,0	150	250	6	6	15	30	
508,0	504,0-512,0	150	250	5	5	15	30	
558,8	555,0-563,0	150	250	4,6	4,6	15	30	
609,6	605,0-614,0	150	250	4,2	4,2	15	30	
660,4	655,0-665,0	150	250	4,2	4,2	15	30	
711,2	706,0-716,0	150	250	3,7	3,7	15	30	
812,8	807,0-817,0	150	250	3	3	15	30	
1016,0	1011,0-1021,0	150	250	2,5	2,5	15	30	

Hegaflex and Hegagrip

Range of stainless steel couplings available as short and long version. Hegaflex is available up to including DN 2000 Hegagrip is available up to including DN 350

Material specification

Sleeve: stainless steel Aisi 304 Bolts & nuts: stainless steel Aisi 304

Rubber: EPDM or NBR

Prices and other specifications available on request.



Hegagrip - Grip Type Coupling

Size	Range	Length in mm			king e in bar	Max. gap in mm		
o.d. in mm	o.d. in mm	Short type	Long type	Short type	Long type	Short type	Long type	
21,7	21,0-22,0	60		16	16	8	8	
26,9	26,0-28,0	60		16	16	8	8	
33,7	33,0-35,0	60	100	16	16	8	16	
42,4	42,0-44,0	60	100	16	16	8	16	
48,3	47,5-49,5	60	100	16	16	8	16	
57,0	56,0-58,0	80	150	16	16	8	16	
60,3	59,0-61,5	80	150	16	16	8	16	
63,0	62,0-64,0	80	150	16	16	15	30	
73,0	72,5-75,5	80	150	14	16	15	30	
76,1	75,0-78,0	80	150	14	16	15	30	
88,9	88,0-91,0	110	200	14	16	15	30	
101,6	100,0-103,0	110		14	16	15	30	
108,0	106,0-109,0	110	200	14	16	15	30	
114,3	113,0-116,0	110	200	14	16	15	30	
139,7	138,0-142,0	111	201	14	16	15	30	
168,3	166,0-170,0	111	201	12	16	15	30	
219,1	216,5-221,5	150	250	8	12	15	30	
273,0	270,0-276,0	150	250	8	10	15	30	
323,9	322,0-328,0	150	250	7	8	15	30	
355,6	352,0-360,0	150	250	7	8	15	30	
406,4	402,0-410,0	150	250	6	6	15	30	
457,2	453,0-460,0	150	250	6	6	15	30	
508,0	504,0-512,0	150	250	5	5	15	30	
558,8	555,0-563,3	150	250	4,6	4,6	15	30	
609,6	605,0-614,0	150	250	4,2	4,2	15	30	

Hegaflex and Hegagrip

Range of stainless steel couplings available as short and long version. Hegaflex is available up to including DN 2000 Hegagrip is available up to including DN 350

Material specification

Sleeve: stainless steel Aisi 304 Grip ring: stainless steel Aisi 304 Bolts & nuts: stainless steel Aisi 304

Rubber: EPDM or NBR

Prices and other specifications available on request.

pipeline products for water, gas and industrial applications





HEGAWAFLANGED, RESTRAINED DISMANTELING JOINTS

The Hegawa Flanged restrained dismantling joints are double flanged fittings that allow longitudinal adjustment in flanged pipe systems. They have been developed to provide greater flexibility at the planning and installation stages of flanged pipe systems and also for subsequent maintenance.

The Hegawa Flanged restrained dismantling joints are particularly suitable for simplifying the installation and removal of all kind of valves, pumps and flanged pipes and fittings. Typical applications include pumping stations, water treatment works, sewage treatment works, plant rooms, meter chambers, power generation equipment and gas distribution stations.

Available from DN 50 mm up to including DN 1600 mm.

Flanges can be drilled to suit various international standards like ISO, DIN, BS and ANSI for pressure classes PN 10, PN 16, PN 25 and PN 40.

If you have any technical questions that are not answered in this brochure, please do not hesitate to contact Hegawa or your Hegawa distributor.

Material specification

- High quality rolled steel to BS4360:1986 Grade 43A.
- Fusion bounded epoxy coating, thickness approx. 200 microns.
 Other coatings such as hot dipped galvanized, transit coating or other epoxy coatings are available on request.
- EPDM or NBR rubber gaskets.
- Tie bars and nuts are made of steel BS970:Part1:1983 Grade 070 and are hot dip galvanized to BS729. Stainless steel tie bars and nuts are available on request.

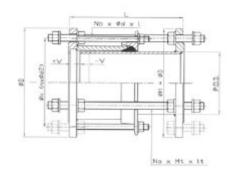
Advantages

- Accommodates up to 50 mm / 2" longitudinal adjustment.
- Allows for fast and simple maintenance of valves and pumps.
- Simplifies future pipework modifications and reduces down time.
- Installed with a spanner and a torque wrench, no special tools needed.
- · Absorbs vibrations.
- · Accepts some disallignment in straight pipes.

FLANGED, RESTRAINED DISMANTELING JOINTS TYPE HD-1

- Flange drilled to PN 10 and PN 16.
 Other drillings available on request.
 All dimensions are in mm unless otherwise stated.





		Overall length							
Nominal diameter mm	PN	in medium position mm	Tolerance +/- V mm	Flange o.d ø D mm	Pitch Circle ø K mm	Number of bolt holes n x ød2	Size Tie bars Mt x lt	Number of tie bars	Weight each kg
50	10, 16	180	20	165	125	4X18	M16x280	2	8,0
65	10, 16	180	20	185	145	4X18	M16x280	2	9,5
80	10, 16	200	20	200	160	8x18	M16x310	4	12,5
100	10, 16	200	20	220	180	8x18	M16x310	4	14,5
125	10, 16	200	20	250	210	8x18	M16x310	4	18,0
150	10, 16	200	20	285	240	8x22	M20x340	4	21,5
200	10	220	25	340	295	8x22	M20x340	4	29,0
200	16	220	25	340	295	12X22	M20x340	6	31,5
250	10	220	25	395	350	12X22	M20x360	6	42,0
250	16	230	25	405	355	12X26	M20x370	6	45,5
200	10	220	25	445	400	12X22	M20x360	6	47,5
300	16	250	25	460	410	12X26	M24X410	6	54,0
250	10	230	25	505	460	16X22	M20x360	8	66,0
350	16	260	25	520	470	16x26	M24X410	8	80,0
400	10	230	25	565	515	16x26	M24x370	8	79,0
	16	270	25	580	525	16x30	M27X430	8	97,5
450	10	250	25	615	565	20X26	M24x390	10	92,5
	16	270	25	640	585	20X30	M27X430	10	114,0
500	10	260	25	670	620	20X26	M24x390	10	105,0
500	16	280	25	715	650	20X33	M30x460	10	147,5
(00	10	260	25	780	725	20X30	M27X410	10	130,0
600	16	300	25	840	770	20X36	M33x480	10	196,5
700	10	260	25	895	840	24X30	M27X410	12	165,5
700	16	300	25	910	840	24X36	M33x480	12	211,0
800	10	290	25	1015	950	24X33	M30x460	12	229,0
800	16	320	25	1025	950	24X39	M36x525	12	280,0
	10	290	25	1115	1050	28x33	M30x460	14	261,0
900	16	320	25	1125	1050	28x39	M36x525	14	323,0
1000	10	290	25	1230	1160	28x36	M33x480	14	307,0
1000	16	325	25	1255	1170	28X42	M39x550	14	407,0
	10	300	25	1340	1270	32X36	M33x480	16	351,0
1100	16	325	25	1355	1270	32X42	M39x550	16	448,5
1200	10	320	25	1455	1380	32X39	M36x525	16	430,5
1200	16	325	25	1485	1390	32X48	M45x575	16	587,5

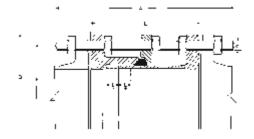
pipeline products for water, gas and industrial applications

HEGAWA

FLANGED, RESTRAINED DISMANTELING JOINTS TYPE HD-2

- Flange drilled to PN 10, PN 16 and PN 25.
- Other drillings available on request.
- All dimensions are in mm unless otherwise stated.





Pipe/flange	201	Max	Tol.	_		Вс	lts	St	uds
Nom. Bore	PN	L	L	D	K	No.	Hole	Size (d)	Lenght (a)
50	10, 16, 25	200	+/- 25	165	125	4	18	16	310
80	10, 16, 25	200	+/- 25	200	160	8	18	16	310
100	10, 16, 25	220	+/- 25	220	180	8	18	16	340
150	10, 16	220	+/- 25	285	240	8	22	20	340
150	25	230	+/- 25	300	250	8	26	24	370
200	10	250	+/- 25	340	295	8	22	20	410
200	16	250	+/- 25	340	295	12	22	20	410
	25	250	+/- 25	360	310	12	26	24	410
	10	250	+/- 25	395	350	12	22	20	410
250	16	250	+/- 25	405	355	12	26	24	410
250	25	250	+/- 25	425	370	12	30	27	410
	10	250	+/- 25	445	400	12	22	20	410
300	16	250	+/- 25	460	410	12	26	24	410
	25	250	+/- 25	485	430	16	30	27	410
	10	260	+/- 25	505	460	16	22	20	410
350	16	260	+/- 25	520	470	16	26	24	410
	25	300	+/- 25	555	490	16	33	30	460
	10	300	+/- 25	565	515	16	26	24	460
400	16	300	+/- 25	580	525	16	30	27	460
	25	300	+/- 25	620	550	16	36	33	500
	10	300	+/- 25	615	565	20	26	24	460
450	16	300	+/- 25	640	585	20	30	27	460
	25	300	+/- 25	670	600	20	36	33	500
500	10	300	+/- 25	670	620	20	26	24	460
	16	300	+/- 25	715	650	20	33	30	460
	25	320	+/- 25	730	660	20	36	33	500
	10	320	+/- 25	780	725	20	30	27	480
600	16	320	+/- 25	840	770	20	36	33	520
	25	340	+/- 25	845	770	20	39	36	540
	10	320	+/- 25	895	840	24	30	27	480
700	16	320	+/- 25	910	840	24	36	33	520
700	25	380	+/- 25	960	875	24	42	39	580
	10	340	+/- 25	1015	950	24	33	30	520
800	16	340	+/- 25	1025	950	24	39	36	540
000	25	380	+/- 25	1085	990	24	48	45	620
	10	340	+/- 25	1115	1050	28	33	30	520
900	16	340	+/- 25	1125	1050	28	39	36	540
900	25	380	+/- 25	1185	1090	28	48	45	620
	10	360	+/- 25	1230	1160	28	36	33	550
1000	16	360	+/- 25	1255	1170	28	42	39	580
1000		400	+/- 25	1320	1210	28	56	52	660
	25 10	360	+/- 25	1340	1210	32	36		550
1100	16	360	+/- 25					33	
	10		+/- 25	1355	1270	32	42	39	580 580
1200		360	+/- 25	1455	1380	32	39	36	+
1200	16	380		1485	1390	32	48	45	620
	25	450	+/- 25	1530	1420	32	56	52	750
1300	10	380	+/- 25	1575	1490	32	42	39	620
	16	380	+/- 25	1585	1490	32	48	45	620
1400	10	380	+/- 25	1675	1590	36	42	39	600
	16	380	+/- 25	1685	1590	36	48	45	630
1500	10	400	+/- 25	1785	1700	36	42	39	620
1600	10	400	+/- 25	1915	1820	40	48	45	630



HEGAWACOMPRESSION FITTINGS

Hegawa Compression Fittings offer a good jointing system for both the repair and jointing of new service pipework. They are suitable for Steel, PVC, Polyethylene (PE) and Copper pipes, as well as a transition connection between these materials. The Hegawa Compression Fittings are a comprehensive range of couplings and fittings specifically designed for service pipe jointing within the Gas, Water, Mechanical Services and Shipbuilding industry.

Advantages

- Rapid installation: a fast and easy installation is assured with the unique design of the end nut. No special tools are required.
- End load bearing avoiding the need for anchoring: the fittings incorporate a specially designed locking arrangement which ensures full end-load performance.
- Corrosion protection: all fittings can be supplied with a galvanized finish.
- Optimal repair system: the high volume gasket provides a permanent and reliable seal on old and corroded service pipework, an important requirement when carrying out repairs.
- \bullet Special, fire approved, type available for temperatures up to 650 °C.
- Angularity can be taken up to 3°.

Full range

Hegawa Compression Fittings are available in a large range of sizes from 3/8" up to including 2".

(20 mm - 63 mm), in transitions between steel and PE pipe materials and also in different styles (short type, long type, elbows, tees, end caps).

Material specification

Body and nuts: Malleable Cast Iron Gaskets: NBR approved for Gas and Water.

Coating: galvanized.

pipeline products for water, gas and industrial applications





HEGAWAEXPANSION JOINT

If a pipeline is subject to a change in length caused by a change in temperature of the surroundings, by the medium or if these changes are caused by other circumstances, such as sinking of the support, the Hegawa Expansion Joint is the ideal tool to absorb forces caused by the change of length.

The Hegawa Expansion Joint is a sliding type which is sealed by a long packing tube. The great advantage of this design is that one expansion joint is able to change its length up to 250 mm. Another advantage is that any type of packing can be used which allows the Hegawa Expansion Joint to be engineered for any medium.

The Hegawa Expansion Joint can be supplied in a nominal diameter of 50 mm up to 600 mm in AISI 304 stainless steel with standard a synthetic Teflon impregnated packing to minimise maintenance. The Expansion Joint is available with flanges or pipe ends that are bevelled for welding also they can be ordered with a restriction device. Once fabricated the stainless steel expansion joint is stained and fully passivated, to obtain the highest possible degree of corrosion resistance.

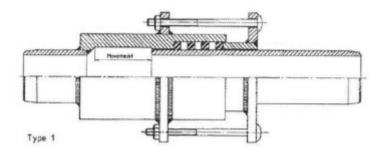
As the Hegawa Expansion Joint is engineered for each application, requirements such as special lengths, alternative materials or special packing can be incorporated in the design.

Please give the following data with your enquiry:

- 1. Application
 - 1.1 Medium
 - 1.2 Temperature
 - 1.3 Expected temperature change
 - 1.4 Change cycle
 - 1.5 Pressure
- 2. Pipe
 - 2.1 Outside diameter
 - 2.2 Pipe wall thickness
 - 2.3 Pipe material
- 3. Type of Expansion Joint
 - 3.1 Change in length to be absorbed
 - 3.2 Flanged or bevelled ends
 - 3.3 Whether a restriction is required
 - 3.4 Type of packing
- 4. Drawing of the pipe installation and pipe support
- 5. Special requirements



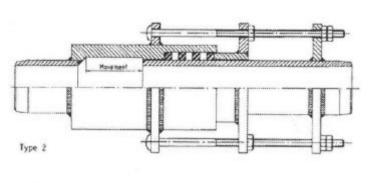
HEGAWAEXPANSION JOINT

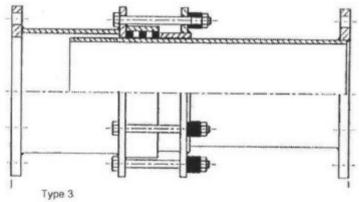


Type 1 is a single-end expansion joint allowing up to 250 mm of pipe displacement. The standard packing for all types consists of alternate resilient rings and PTFE lubricating rings.

Type 2 is also a single-end expansion joint with a constrained displacement feature thus limiting the amount of pipe withdrawal. Slip pipes for type 2 expansion joints are supplied in the regular way.

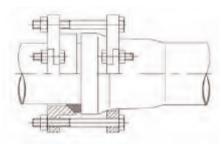
Type 3 is a flanged-end expansion joint allowing up to 250 mm of pipe displacement. The standard packing for all types consists of alternate resilient sealing rings and PTFE lubricating rings.



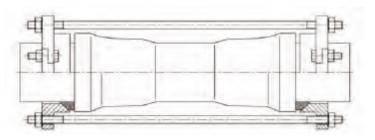


pipeline products for water, gas and industrial applications





Also available for pipes with two bell joints or to repair Asbestos collors:



HEGAWABELL JOINT REPAIR CLAMPS

Introduction

The Hegawa Bell Joint Repair clamps have been developed to repair collars. It provides an effective, permanent repair of leaking spigot and socket joints. Once installed, the gasket reinforces the seal to the spigot and socket joint.

Technical concept

The Hegawa Bell Joint Repair clamp will allow repairs to be made to the spigot and socket joint whilst the main line is pressurised. Once installed there is no future maintenance required, it is a permanent repair.

Range in mm	Weight kg
62-68	3,5
75-84	4,5
94-100	8,5
114-120	9,5
166-173	11,5
217-224	13,5
270-276	18,5
321-328	20,0
373-380	27,0
424-431	30,5
527-534	37,5
630-638	50,0
	in mm 62-68 75-84 94-100 114-120 166-173 217-224 270-276 321-328 373-380 424-431 527-534

Material spedification

Bolts & Nuts: steel to S235JR - PN-EN 24032, galvanized Flange: ductile iron EN-GJS-500-7 to PN-EN 1563:2000

Gasket: EPDM or NBR

Flanges will be fusion bounded epoxy coated, blue colour, 200 micron.

Hegawa single band ductile iron repair clamp



'Waffle' type of rubber with incorporated bridging plate

HEGAWADUCTILE IRON REPAIR CLAMPS

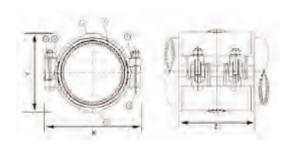
FOR WATER AND GAS SERVICE

Hegawa Ductile Iron Repair Clamps have been designed for the permanent repair of ductile iron, cast iron and steel pipes. Even on badly corroded pipes.

The 'waffle' type of rubber with incorporated bridging plates will take care for a quick and permanent leaktight seal. The Hegawa ductile iron repair clamps are constructed of ductile iron half housings giving them a high strength. The clamps will support and seal around the pipe for full length of the body, ensuring that sealing effectiveness is maintained in all circumstances. The inherent strength of the clamps will cater for circumferential pipe shear and also realign pipes.

The clamps can be installed easily, no specialist installation tools are required. Only a torque wrench to confirm the correct bolt torque.

The clamps are fully epoxy coated, taking care for a long term corrosion protection. No further protection such as wrapping is required.



		U.D. 1	valige	Difficitsions		Dales No.	Malaka	Outlet BSP	
Nominal	Nominal Diameter		Max (mm)	X (mm)	Y (Max) (mm)	Z (mm)	Bolts No. Diameter Length	Weight (Kg)	Threaded Size
2"	DN50	66.0	75.0	150	110	200	4-M12 x 65mm	4.1	3/4"
2 1/2"	DN65	75.0	84.0	159	119	200	4-M12 x 65mm	4.4	3/4"
3"	DN8o	92.3	103.0	184	145	200	4-M16 x 95mm	4.9	3/4"
4"	DN100	115.0	125.6	211	167	200	4-M16 x 95mm	6.0	1/2", 3/4" or 1"
5"	DN125	141.0	153.9	239	182	200	4-M16 x 95mm	7.5	3/4" or 1"
6"	DN150	166.0	181.2	267	217	200	4-M16 x 95mm	8.3	3/4" or 1"
7"	DN175	200.0	210.0	296	238	200	4-M16 x 95mm	9.0	3/4" or 1"
8"	DN200	216.5	226.0	313	269	200	4-M16 x 95mm	9.5	1"
8"	DN200	230.2	243.5	328	281	200	4-M16 x 95mm	10.8	3/4" or 1"
9"	DN225	243.0	267.0	362	307	212	4-M16 x 120mm	13.6	3/4" or 1"
10"	DN250	294.0	294.0	395	322	250	6-M16 x 120mm	18.5	1/2", 3/4" or 1"
12"	DN300	349.0	349.0	450	387	300	8-M16 x 120mm	25.2	1/2", 3/4" or 1"

Material specification

- Solid, well thought-out construction.
- High quality GGG40 ductile iron.
- Coating: High quality epoxy, providing a long term corrosion protection along with resistance to abrasion and impact. It's blue coloured.
- Bridge Plate Material: AISI 304
- Standard Gasket is EPDM.
- Applicable for gas (SBR Rubber is available on request).
- Bolts and Nuts: Standard it will be delivered with carbon steel galvanized bolts and nuts.

Working pressures

The Hegawa Ductile Iron Repair Clamps have been designed for 16 bar working pressure and a test pressure of 24 bars with water applications.

Available sizes

The clamps are available from DN 50 u.t.i. DN 300 and can be supplied with a threaded outlet.

pipeline products for water, gas and industrial applications



Hegawa Ductile Iron Clamps HNN

Hegawa Ductile Iron Clamps HUU



Hegawa Ductile Iron Clamps HUUU

HEGAWADUCTILE IRON REPAIR CLAMPS

Also available:

Hegawa Ductile Iron Clamps HNN

DN	Range Dmin - Dmax (mm)	Height A (mm)	Width B (mm)	Weight (kg)
1/2"	20-23	100	115	1,90
3/4"	25-28	100	120	2,00
1"	31-35	120	127	2,60
1 1/4"	41-45	120	138	2,70
1 1/2"	48-52	140	145	3,35
2"	57-61	140	158	3,70

Hegawa Ductile Iron Clamps HUU

DN	Range Dmin - Dmax (mm)	Height A (mm)	Width B (mm)	Weight (kg)
80	88-99	225	219	9,75
100	107-119	225	246	11,40
150	157-171	225	291	13,80
200	219-226	310	352	26,40
250	270-276	310	420	37,00
300	320-328	310	471	41,60

Hegawa Ductile Iron Clamps HUUU

DN	Range Dmin - Dmax (mm)	Height A (mm)	Width B (mm)	Weight (kg)
80	88-100	170	185	7,55
100	107-119	170	200	8,00
150	157-171	220	245	12,70
200	218-225	250	300	18,90

General delivery and payment conditions of Koninklijke Metaalunie (the Dutch organisation for small and medium-sized enterprises in the metal industry), referred to as 'the METAALUNIE CONDITIONS', formerly referred to as 'the SMECOMA CONDITIONS', filed with the Court Registry in Rotterdam on 1 January 2008.
Published by Koninklijke Metaalunie, PO Box 2600, 3430 GA Nieuwegein, the Netherlands.

©Koninklijke Metaalunie

Article 1: Applicability

- 1.1. These Terms & Conditions apply to all tenders issued by members of Koninklijke Metaalunie, to all agreements concluded by those members and to all agreements that may result therefrom.
- The tendering party/supplier is the Metaalunie member applying these Terms & Conditions, and is referred to as 'the Supplier' The counterparty is referred to as 'the Client'.
- 1.3. In the event of any conflicts between the substance of the agreement concluded between the Client and the Supplier on the one hand and these Terms & Conditions on the other, the provisions set out in the agreement have precedence.
- 1.4. These Terms & Conditions may only be used by members of Koninklijke Metaalunie.

Article 2: Tenders

- 2.1. No obligations are attached to any tenders.
- If the Client supplies the Supplier with data, drawings etc., the Supplier may rely on their accuracy and shall base the tender on that information.
- 2.3. All prices specified in the tender are based on delivery ex works, in accordance with the Incoterms 2000. Prices are stated exclusive of VAT and packing materials.
- 2.4. If the tender is not accepted, the Supplier is entitled to charge the Client for all costs incurred in order to submit the tender.

- 3.1. Unless agreed otherwise in writing, the Supplier retains the copyrights and all industrial property rights to all tenders, designed submitted, illustrations, drawings, trial models, proorams, etc.
- 3.2. The rights listed in Article 3.1 remain the property of th Supplier, regardless of whether costs have been charged the Client for their production. The relevant information man not be copied, used or shown to third parties without th Supplier's explicit prior consent. The Client will be liable to pay the Supplier a penalty for each instance of violation this provision, but he amount of 625,00. This penalty may be demanded in addition to any compensation damage asserted to be asserted.
- 3.3. The Client must return all data provided as meant in Article 3.1 on demand, within the period specified by the Supplier. If this provision is violated, the Client is liable to pay the Supplier a penalty of €1,000 per day. This penalty may be demanded in addition to any compensation damages

Article 4: Advice, designs and materials

- 4.1. The Client cannot derive any rights from advice or information provided by the Supplier that has no direct bearing on the
- 4.2. The Client is responsible for all drawings, calculations and designs made by or on behalf of the Client, and for the functional suitability of all materials prescribed by or on behalf of the Client.
- 4.3. The Client indemnifies the Supplier for any claims from third parties arising in connection with the use of the drawings, calculations, designs, materialis, samples, models, etc. provided by or on behalf of the Client.
- 4.4. The Client may examine (or arrange for the examination of) the materials that the Supplier intends to use before they are processed, at the Client's own expense. Any damages incurred by the Supplier as a result are for the Client's

- The delivery deadline and/or work period stated by the Supplier are estimates.
- 5.2. In determining delivery deadlines and/or work periods, Supplier assumes that the engagement can be carried under the circumstances as they are known to the Supplie that moment.
- 5.3. Delivery deadlines and/or work periods do not commencural the Parties have agreed on all commercial and technica details, all necessary data, final and approved drawings, etc are in the Supplier's possession, the payment or instalment agreed has been received and the conditions necessary for the performance of the engagement have been met.
- signed has been releved and the Unfailubis Necessary to the performance of the engagement have been met.

 5.4. a. In the event of circumstances that are different to those known to the Supplier when the delivery deadline and/or work period were determined, the Supplier may extend the delivery deadline and/or work period by the time that is required in order to perform the engagement under those Supplier's work schedule, it will be carried out as soon as the Supplier's sended be permits.

 b. In the event of contract extrast, the delivery deadline and/or work period will be extended by the time required to supply (or arrange for the supply of) the materials and parts contract extrast. If the contract extrast cannot be fitted into the Supplier's work schedule, they will be carried out as soon as the Supplier's schedule permits.

 c. In the event that the Supplier's obligations are suspended, the delivery deadline and/or work period will be extended by the duration that the obligations are suspended, the work schedule, the work suspender and the Supplier's schedule permits.

 d. In the event of weather conditions that prevent work being carried out, the delivery deadline and/or work period will be extended by the event when the supplier's schedule permits.

Article 6: Transfer of risk

- 6.2. The provisions of Article 6.1 notwithstanding, the Client and the Supplier may agree that the Supplier will arrange transport. The risks attached to the storage, loading, transport and unloading remain with the Client in such instances. The Client may take out insurance to cover those risks.

6.3. In the event that objects are to be exchanged and the Client continues to use the exchangeable object while awaiting delivery of the new object, the risks attached to the exchangeable object remain with the Client until the moment that possession of the object has been relinquished to the Supplier.

Article 7: Price changes

- 7.1. The Supplier may charge any increases in cost-determining factors that arise after the agreement is concluded to the Client if the performance of the agreement has not been completed at the moment of the increase.
- 7.2. The Client is obliged to pay the price increases as meant in Article 7.1 at the same time as the principal sum or the next instalment is paid.
- 7.3. If the Client provides goods and the Supplier is prepared to use those goods, the Supplier may charge up to 20% of the market price of the goods provided.

- obligations if any circumstances that could not be tolescent when the agreement was concluded and that are beyond the Supplier's influence temporarily prevent the fulfilment of those obligations.
- Circumstances that the Supplier could not foresee and that are beyond the Supplier's influence are understood to include four are not imitted to; the circumstance that the Supplier's own suppliers and/or subcontractors fall to meet their obligations, or fall to do so in time, the weather earthquakes, fire, loss or theft of tools, the destruction of materials to be processed, road blocks, strikes or work stoppages and restrictions on import or trade.
- The Supplier is no longer entitled to suspend the fulfilment of any obligations when the temporary impossibility of performance has lasted for more than six months. The agreement may not be dissolved until that term has lapsed, and only in respect of those obligations that have not benefitified. In the event, the Parties are not entitled to any compensation for damages incurred as a result of that dissolution.

Article 9: Scope of the work

- The price for the work dees not include the following:

 a. the costs of earthwork, pile driving, demolition, foundation work, cementing, carpetry, plastering, painting, wallapapering, repairs or other construction work.

 b. the costs of connecting gas, water, electricity or other infrastructural facilities;

 c. the costs of preventing or limiting damages to any objects situated on or near the work site;

 c. the costs of disposing of materials, building materials or water products;

 water products;

 hold and traveling expenses.

- 1. Any changes to the work will result in contract variations in at least the following instances:
 a. if the design or the specifications change;
 b. if the information provided by the Client does not match the actual situation.
 c. in the event of deviation from estimated quantities by more than 10%.
- 10.2 Contract extras will be charged based on the value of the cost-determining factors as at the moment that the contract extra is performed. Contract deductions will be settled based on the value of the cost-determining factors as at the moment that the agreement was concluded.
- 10.3. If the value of the contract deductions exceeds that of the contract extras, the Supplier is entitled to charge the Client for 10% of the difference upon final settlement. This provides does not apply to any contract deductions based on requests from the Supplier.

- 11.1. The Client is responsible for ensuring that the Supplier can carry out the activities without interruption and at the times agreed, and that the Supplier has access to the necessary facilities when carrying out the activities, such as:
 gas, water and electricity.
 lockable and dry storage space:
 lockable and dry storage space:
 all facilities required by the laws and regulations governing working conditions.
- 11.2. The Client is liable for all damages, including those resulting from loss, theft, burning or harm, to objects belonging to the Supplier, the Client and/or any third parties, such as tools and materials intended for use in the work that are located on the site where the activities are carried out or at another agreed location.
- 11.3. If the Client fails to fulfil the obligations as set out in Article 11.1 and 11.2, and that failure causes delays in the performance of the activities, the activities will be carried out as soon as the Client as yet fulfils those obligations and when the Supplier's schedule permits. The Client is liable for all damages that the Supplier incurs as a result of the delay.

- Article 12: Completion of the work

 2. The project will be deemed to have been completed when:
 a. In Client has approved the work.
 b. the Client has put the work into use. If the Client puts part
 of the work into use, that part will be deemed to have been
 completed:
 c. the Supplier has notified the Client in writing that the work
 is finished and the Client has not communicated, within 14
 days after than notification, whether or not the work has
 d. the Client does not approve the work or grounds of minor
 defects or missing parts that can be repaired or provided
 within 30 days and that do not prevent the work from being
 put into use.
- 12.3. If the Client does not approve the work, the Supplier must be given another opportunity to complete the work. The provisions set out in this Article apply anew.

12.4. The Client indemnifies the Supplier against all claims from third parties for damages to parts of the work that have not yet been completed that are caused by use of parts of the work that have already been completed.

Article 13: Liability

- 13.1. The Supplier is liable for all damages that the Client incurs that stem directly and exclusively from a shortcoming attributable to the Supplier. However, only those damages for which the Supplier is insured, or should within reason have been insured, qualify for compensation.
- If, when the agreement is concluded, it is impossible for the Supplier to take out insurance as meant in Article 13.1, or impossible to do so at reasonable conditions, or if it is subsequently impossible to renew the insurance policy at reasonable conditions, the maximum compensation payable for damages is the amount that the Supplier charged for the agreement in question (exclusive of VAT).

- 3.3. The following damages do not qualify for compensation:
 a trading losses, including losses caused by delays and loss of profits. The Client should take out insurance to cover such damages, if such is deemed desirable;
 b supervision damages, which are understood to include damages caused, during or as a result of the performance of the work, to objects on which work is being carried out to objects situated in the vicinity of the work site. The Client should take out insurance to cover such damages, if such is deemed desirable;
 c damages caused by intent or gross negligence on the part of helpers or non-management employees of the Supplier.
- 13.5. The Client indemnifies the Supplier against all claims from third parties for product liability stemming from defects in products provided by the Client to third parties that consisted of or included products and/or materials provided by the Supplier.

Article 14: Guarantees

- 14.1. The Supplier guarantees the proper performance of the product or service stipulated for a period of six months after delivery or completion.
- 14.2. If the product or service stipulated consists of contract work, the Supplier guarantees the soundness of the construction delivered and the materials used, if the Supplier was at liberty to choose those materials, for the period specified in Article 4.8
 - If the construction delivered and/or the materials used prove to be unsound, the Supplier will make the necessary repairs or replacement. Those parts that are to be repaired at the Supplier's place of business or are to be replaced by the Supplier must be sent to the Supplier must be sent to the Supplier must provide the Supplier must provide the Supplier carriage paid. Disassembly and assembly of those parts, plus any hotel and travelling expenses, are for the Client's account.
- 14.3. If the product or service stipulated (partly) consists of processing of materials provided by the Client, the Suppi guarantees proper processing for the period specified Article 14.1.
 - If any processing proves to have been performed improperly, the Supplier will do one of the following, at the Supplier's
- The Supplies will do one to the Cartesian Silicretion:

 repeat the process, in which case the Client must provide new materials, at the Client's own expense;

 repair the shortcoming, in which case the Client must return the materials to the Supplier carriage paid;

 credit the Client for a proportionate part of the invoice.
- 14.4. If the product or service stipulated consists of the delivery of an object, the Supplier guarantees the soundness of the object delivered for the period specified in Article 14.1. If the delivery proves to have been defective, the object must be returned to the Supplier carriage paid. The Supplier will then elect either:

 - to repair the object;
 - to replace the object;
 - to credict the Client for a proportionate part of the invoice.
- 14.5. If the product or service stipulated (partly) consists of the fitting and/or assembling of a delivered object, the Supplier guarantees the soundness of the fitting and/or assembly for the period specified in Article 14.1.
 - If the fitting and/or assembly prove to be defective, the Supplier will repair the fault. Any hotel and travelling expenses are for the Client's account.
- 14.6. Factory guarantees apply to those parts for which the Client and the Supplier agree such explicitly and in writing. If the Client has had the opportunity to examine the substance of the factory guarantee, that factory guarantee will replace the guarantees specified in this Article.
- 14.7. In all situations, the Client must allow the Supplier the opportunity to repair any shortcomings and/or repeat the processing.
- 14.8. The Client may only invoke guarantees after all obligations in respect of the Supplier have been fulfilled.
- - normal wear and tear; improper use; lack of proper maintenance; fitting, assembly, alterations or repairs by the Client or by third parties.
- y mrc parties.
 No guarantee is given for delivered objects that were not new when they were delivered of for objects whose use the Client prescribed or that were provided by or on behalf of the Client.
- or the Client.
 No guarantee is given on inspections of and/or repairs to objects belonging to the Client.

The Client may not invoke defects in the product or service unless a written complaint has been submitted to the Supplier within fourteen days after the defect was detected or should, within reason, have been detected.

Article 16: Failure to take delivery

In the event that the Client has not taken delivery of any object after the delivery deadline has passed, those objects will remain available to the Client. Any objects of which the Client has no taken delivery will be stored for the Client's account and risk. The Supplier may at any time invoke the powers granted by Article 650 of the Ducht Ovil Code.

Article 17: Payment

- 17.1. Payment must be made at the Supplier's place of business or to an account specified by the Supplier.
- 17.2. Unless agreed otherwise, payment must be made using one of the following methods:
 a. for counter sales: cash;
 b. for payment in instalments:
 40% of the total price when the engagement is granted:
 50% of the total price when the engagement is granted:
 60% of the total price when the materials have been delivery of the materials, upon commencement of the activities;
 10% of the total price upon completion;
 c. in all other instances: within thirty days after the date on the invoice.
- 17.3. The payment conditions specified notwithstanding, the Client is obliged, at the Supplier's request, to provide security for payment, to the Supplier's satisfaction. Failure on the Client's part to provide such security for payment within the period specified will immediately constitute default. In that event, the Supplier is entitled to dissolve the agreement and recover any damages from the Client.
- 17.4. The Client's right to offset any claims on the Supplier is excluded, except in the event of the Supplier's bankruptcy or if judicial debt rescheduling is applied in respect of the Supplier.
- 17.5. The full claim for payment is payable on demand in the following instances:

 - The full claim to payment ...

 a. if any payment deadline has been exceeded;

 b. if the Cleint has been declared bankrupt or requests suspension of payments;

 c. if any of the Client's assets or claims are seized;

 d. if the Client (if a company) is dissolved or wound up;

 e. if the Client (if a natural person) makes a request for judicial debt rescheduling, is placed under guardianship or
- 17.6. If payment has not been made by the payment deadline specified, the Client is immediately liable to pay the Supplier interest. That interest is payable at a rate of 12% per year, or at the statutory rate if that is higher. For the purposes of calculating the interest, partial months are counted as full months.

The costs are calculated in	accordance 1	with	the
table:			
over the first €3,000	15%		
over the excess up to €6,000	10%		
over the excess up to €15,000	8%		
over the excess up to €60,000	5%		
over the excess from €60,000	3%		

If the actual extrajudicial costs exceed those based on this formula, the Client is liable to pay the actual costs.

17.8. If judicial proceedings are decided in the Supplier's favour, all costs incurred by the Supplier in connection with those proceedings are for the Client's account.

Article 18: Retention of ownership and pledging

- 18.1. After delivery, the Supplier remains the owner of the objects delivered for as long as:
 a. the Client fails or will still at the fulfilment of the obligations stemming from this agreement or any similar agreements;
 b. the Client fails or will fail to pay for any work performed or to be performed under such agreements, to be performed under such agreements, such as compensation for fulfilment of those agreements such as compensation for damages, penalties, interest and costs.
- 18.2. As long as any objects are subject to retention of owner the Client may not encumber those objects in any way exceeds the scope of the Client's ordinary activities.
- 18.4. If the Supplier cannot invoke retention of ownership because the objects delivered have been subject to confusion, deformation or accession, the Client is obliged to give the newly formed objects in pledge to the Supplier.

Article 19: Termination

If the Client wishes to dissolve the agreement without the Supplier having failed in the performance thereof and if the Supplier so agrees, the agreement will be terminated by mutual consent. In that event, the Supplier is entitled to reimbursement for all financial losses incurred, such as damages, loss of profits and costs.

- 20.1. These Terms & Conditions are governed by the laws of the Netherlands.
- 20.2. The Vienna Sales Convention (C.I.S.G.) does not apply to these Terms & Conditions, nor do any other international regulations whose exclusion is permitted.
- 20.3. Only the Dutch civil court within whose jurisdiction the Supplier's place of business is situated is competent to pass judgment on disputes, unless such is at odds with any mandatory rules of iaw. The Supplier is entitled to deviate from this jurisdiction clause and apply the statutory rules for
- 20.4. The Parties may agree on another form of dispute settle such as arbitration or mediation.

These conditions are a full translation of the Dutch version of the 'METAALUNIEVOORWAARDEN' as deposited with the Registry of the District Court in Rotterdam on 1 January 2008. Explanation and interpretation of the text of these Conditions shall be based on the Dutch text.





United Pipeline Products









HEGAWA







