



NORHAM UNIVERSAL FLEXIBLE COUPLINGS

COUPLINGS & SEALS

« Couplings-and-rings » units for connecting and repairing multimaterial sewerage, rainwater and backflow networks.

- Permanent multimaterial COUPLINGS with VERY HIGH TOLERANCES
- Integrated, removable and reusable rings
- Manufactured and certified in France : DTA N°17.2/20-32_V2 and ETA 09/248



130 RUE DES SAULES — 26260 SAINT DONAT SUR L'HERBASSE - FRANCE
TÉL : 33 (0) 4 75 45 00 00 - norham@norham.fr // www.norham.fr

NORHAM UNIVERSAL FLEXIBLE COUPLINGS

FITTINGS & SEALS

→ INTRODUCTION

AREA OF USE

The permanent multimaterial **NORHAM UNIVERSAL FLEXIBLE COUPLING** is a **VERY HIGH TOLERANCE** coupling : developed from the **NORHAM COUPLINGS**, it is available with predefined compensation rings, allowing a very wide range of use and therefore a maximum number of possible connections for a given DN.

When the pipes to be connected do not have the same internal diameter, the integrated off-centre rings ensure that the water flow is maintained.

Held in stock, the **NORHAM UNIVERSAL FLEXIBLE COUPLING** is **THE IDEAL BACK-UP SOLUTION** for immediate intervention on networks.

It is easy to install using a simple ratchet spanner. It is ideal for repairing and connecting pipes of different materials, for sewerage, gravity drains and backflow drains.



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DONNÉES TECHNIQUES

- **Operating pressure** : max. 1,0 bar ;
- **Test pressure** : 1,5 bars ;
- **Temperature resistance** : -40 °C à +140 °C ;
- **Angular deviation** : voir tableau ci-contre.

	DN	MAX. ANGULAR DEVIATION
USC	DN ≤ 200	5,0° (80 mm/m)
	DN > 200	2,0° (30 mm/m)

For extreme conditions, please consult us.

ASSEMBLY TECHNOLOGY

- **TOX®** : assembly of AISI304 (optional AISI316) stainless steel parts by clinching (a joining process) for optimum corrosion resistance. ;
- **CLIP-IN** : profiled rubber system to hold clamps and central anti-shearing band in place ;
- **MEDIUM-TORQUE and HI-TORQUE** : optimum clamping system for guaranteed pressure resistance :
 - **MEDIUM-TORQUE** : for couplings DN ≤ 150 ;
 - **HI-TORQUE** : 200 ≤ DN ≤ 400.



MATERIALS QUALITY

- EPDM elastomer certified to **NF EN 681-1**
- **AISI 304 stainless steel** with a minimum hardness corresponding to class **+C850** in accordance with standard **NF EN 10088-2**

CERTIFICATIONS BY NOTIFIED BODIES

NORHAM COUPLINGS multimaterial couplings are the only ones manufactured and certified in France.

They have :

- **European Technical Assessment ETA n° 09/0248** (issued by EOTA) ;
- a Technical Notice : **Technical application document DTA n° 17.2/20-352_V2** (issued by the CSTB).

As part of our DTA / ETA, tests are carried out on our **NORHAM COUPLINGS** solutions to certify that the performance of our products complies with current requirements :

- sizing inspection ;
- watertightness of pipe coupling assemblies with :
 - short and long-term shear strength ;
 - angular deviation ;
 - pipe ovality ;
 - temperature cycling ;
 - fire resistance.



DOCUMENTS AVAILABLE ON REQUEST
OR DOWNLOADABLE FROM OUR WEBSITE
WWW.NORHAM.FR.

Thanks to these certifications, **NORHAM COUPLINGS** are  et  marked.

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THE RANGE

NORHAM UNIVERSAL FLEXIBLE COUPLINGS UNITS

Each NORHAM UNIVERSAL FLEXIBLE COUPLINGS consists of a NORHAM COUPLINGS and a set of compensating rings.

REF.	DN	RANGE OF USE		WITH RINGS		WITHOUT RINGS		ENTIRE KIT	
		MIN	MAX	MIN	MAX	MIN	MAX	COUPLING	BC BC-EX ⁽²⁾ RINGS IF DEFINED
USC100	100	104	140	104	124	120	140	SC140	2 x BC08-USC100
USC125	125	125 ⁽¹⁾	162	125 ⁽²⁾ / 121	146	137	162	SC162	2 x BC08-USC125 + BC08-125EX
USC150	150	159	200	159	184	175	200	SC200	2 x BC08-USC150
USC200	200	200 ⁽¹⁾	250	200 ⁽²⁾ / 209	234	225	250	SC250	2 x BC08-USC200 + BC08-200EX
USC200+	200	200 ⁽¹⁾	275	200 ⁽²⁾ / 218	243	250	275	SC275	2 x BC16-USC200+ + BC08-200EX
USC250	250	250 ⁽¹⁾	320	250 ⁽²⁾ / 263	288	295	320	SC320	2 x BC16-USC250 + BC16-250EX
USC300	300	307	385	307	337	355	385	SC385	2 x BC24-USC300
USC300+	300	323	385	323	353	355	385	SC385	2 x BC16-USC300+

For other DN's and customised kits, please contact us.

(1) with BC-Ex, if defined.

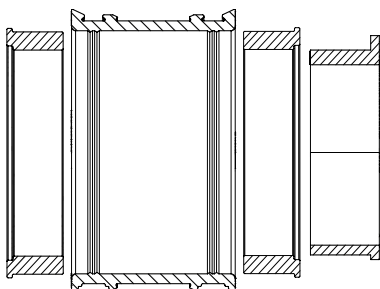
(2) BC Ex on PVC only.



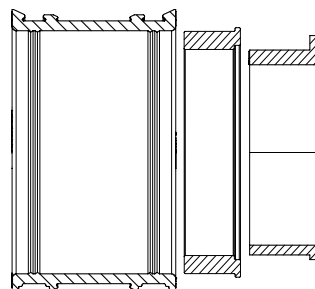
- If max. Ø to be connected = median tolerance: remove the compensation ring.
- If min. Ø to be connected = median tolerance: keep the compensation ring.
- If min. internal Ø ≠ DN pipe: use the BC EX supplied with the Kit - BC EX specially designed for PVC pipes in order to maintain the water flow at the coupling.

In configurations where compensation rings are not required to make the coupling, these are reusable and can therefore be stored for other NORHAM UNIVERSAL FLEXIBLE COUPLINGS.

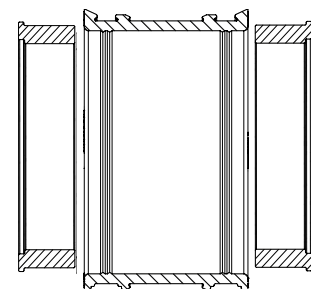
TIP: to remove the integrated ring, press the centre of the coupling, then pull the ring outwards.



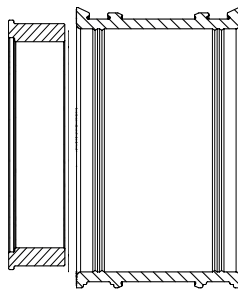
COUPLING WITH TWO RINGS + BC-EX



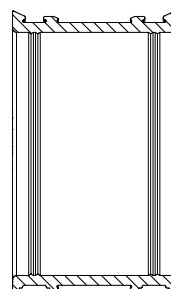
COUPLING WITH ONE RING + BC-EX



COUPLING WITH TWO RINGS



COUPLING WITH ONE RING



COUPLING WITHOUT RING

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POSSIBLES CONNECTIONS

Thanks to their removable ring sets, **NORHAM UNIVERSAL FLEXIBLE COUPLINGS** solutions can be used to make a multitude of couplings.

Use the tables below to determine the number of rings required for the couplings you need to make.

To do this, refer to the colour code in the key.

LEGENDE

WITHOUT RING
WITH ONE RING
WITH TWO RINGS
WITH ONE RING + BC-EX
WITH TWO RINGS + BC-EX

USC100 CONNECTIONS

100	PVC 110					
	STEEL 114					
	C-IRON 115					
	D-IRON 118					
	CLAY 131					
	Ø EXT	PVC 110	STEEL 114	C-IRON 115	D-IRON 118	CLAY 131
DN	100					

USC125 CONNECTIONS

125	PVC 125	NC*				
	STEEL 139					
	C-IRON 141					
	D-IRON 144					
	CLAY 159					
	Ø EXT	PVC 125	STEEL 139	C-IRON 141	D-IRON 144	CLAY 159
DN	125					

USC150 CONNECTIONS

150	PVC 160					
	STEEL 166					
	C-IRON 168					
	D-IRON 170					
	CLAY 186					
	Ø EXT	PVC 160	STEEL 166	C-IRON 168	D-IRON 170	CLAY 186
DN	150					

USC200 CONNECTIONS

200	PVC 200	NC*				
	STEEL 218					
	C-IRON 219					
	D-IRON 222					
	CLAY 242					
	Ø EXT	PVC 200	STEEL 218	C-IRON 219	D-IRON 222	CLAY 242
DN	200					

USC200+ CONNECTIONS

200	CLAY 254				NC*	
	Ø EXT	PVC 200	STEEL 218	C-IRON 219	D-IRON 222	CLAY 242
DN	200					



* NC : Not compatible - Consult us.

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USC250 CONNECTIONS

250	PVC 250	NC*					
	STEEL 273						
	C-IRON 274						
	D-IRON 274						
	CLAY 296						
	CLAY 318					NC*	
	Ø EXT	PVC 250	STEEL 273	C-IRON 274	D-IRON 274	CLAY 296	CLAY 318
DN	250						

LEGENDE

WITHOUT RING
WITH ONE RING
WITH TWO RINGS
WITH ONE RING + BC-EX
WITH TWO RINGS + BC-EX

USC300 CONNECTIONS

300	PVC 315						
	STEEL 324						
	C-IRON 326						
	D-IRON 328						
	CLAY 355		NC*	NC*	NC*		
	CLAY 376					NC*	
	Ø EXT	PVC 315	STEEL 324	C-IRON 326	D-IRON 328	CLAY 355	CLAY 376
DN	300						

CONNECTIONS USC300+

300	CLAY 355	NC*					
	CLAY 376	NC*	NC*	NC*	NC*	NC*	
	Ø EXT	PVC 315	STEEL 324	C-IRON 326	D-IRON 328	CLAY 355	CLAY 376
DN	300						

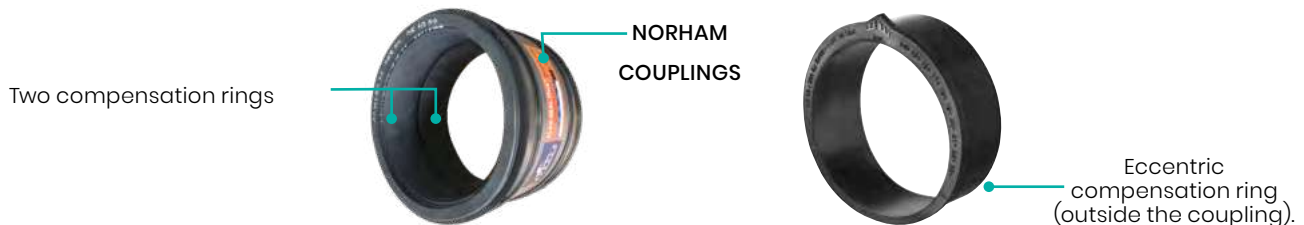


* NC : Not compatible - Consult us.

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→ INSTALLATION AND IMPLEMENTATION

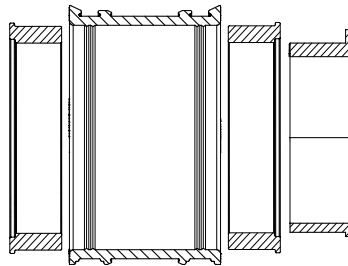


All kits are composed of two compensation rings delivered fitted in the coupling and some references have an off-centre compensation ring not fitted in the coupling.

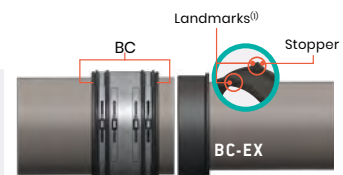
OPTION 1 :

COUPLING WITH TWO RINGS + BC-EX

Exploded view



PHASE 1	Draw a mark on the pipe with the largest external diameter, corresponding to half the width of the coupling.
PHASE 2	Position the eccentric compensation ring on the PVC pipe, making sure that the mark on the ring is on the top of the pipe. Loosen the clamps and slide the coupling (without removing the compensation rings, which are held inside) onto the pipe with the largest external diameter.
PHASE 3	Align the two pipes and bring them as close together as possible.
PHASE 4	Slide the coupling onto the eccentric ring until the coupling is flush with the shoulder of the eccentric ring. Tighten the fasteners until they lock (the recommended torque is shown on the coupling label).



(1) For BC-Ex ring only.



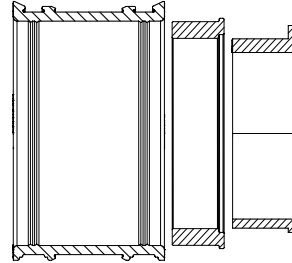
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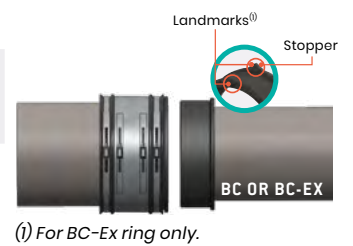
OPTION 2 :

COUPLING WITH ONE RING + BC-EX

Exploded view



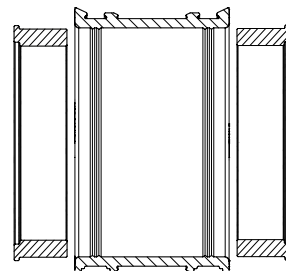
PHASE 1	Remove one of the two compensation rings. <i>TIP : to remove the integrated ring, press the centre of the coupling, then pull the ring outwards.</i>
PHASE 2	Draw a mark on the pipes corresponding to half the width of the coupling.
PHASE 3	Position the eccentric compensation ring on the PVC pipe, making sure that the mark on the ring is on the top of the pipe. Loosen the clamps and slide the part of the coupling without the ring onto the pipe with the largest external diameter.
PHASE 4	Align the two pipes and bring them as close together as possible.
PHASE 5	Slide the coupling onto the eccentric ring until the coupling is flush with the shoulder of the eccentric ring. Tighten the fasteners until they lock (the recommended torque is shown on the coupling label).



OPTION 3 :

COUPLING WITH TWO RINGS

Exploded view



PHASE 1	Draw a mark on the pipe with the largest external diameter, corresponding to half the width of the coupling.
PHASE 2	Loosen the clamps and slide the coupling (without removing the compensation rings which are held inside) onto the pipe with the smallest external diameter.
PHASE 3	Align the two pipes and bring them as close together as possible.
PHASE 4	Slide the coupling up to the mark and tighten all the fasteners until they lock (the recommended torque is shown on the coupling label).



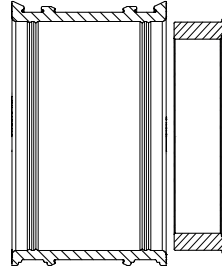
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OPTION 4 :

COUPLING WITH ONE RING

Exploded view



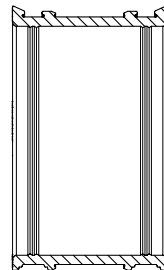
PHASE 1	Remove one of the two compensation rings. <i>TIP : to remove the integrated ring, press the centre of the coupling, then pull the ring outwards.</i>
PHASE 2	Draw a mark on the pipes corresponding to half the width of the coupling.
PHASE 3	Loosen the clamps and slide the part of the coupling with the ring onto the pipe with the small external diameter.
PHASE 4	Align the two pipes and bring them as close together as possible.
PHASE 5	Slide the unit up to the marks and tighten the fasteners until they lock (the recommended torque is indicated on the coupling label).



OPTION 5 :

COUPLING WITHOUT RING

Section view



PHASE 1	Draw a mark on the pipe with the largest external diameter, corresponding to half the width of the coupling.
PHASE 2	Loosen the clamps and slide the coupling onto the pipe with the largest external diameter.
PHASE 3	Align the two pipes and bring them as close together as possible.
PHASE 4	Slide the coupling up to the mark and tighten all the fasteners until they lock (the recommended torque is shown on the coupling label).



In this configuration, the difference between the two external diameters must be less than the maximum Δ of the coupling.



N O R H A M



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