

JOINTING, REPAIRING AND HOT TAPPING SYSTEMS
FOR LAND AND MARINE PIPELINES

WELCOME TO **NOVA SIRIA** WORLD

NOVA SIRIA is a leader in the production of tailor-made couplings.

NOVA SIRIA production offers the most advanced technology and quality solutions currently available on the market: reliability, versatility and fast delivery in case of emergency have assured worldwide success of our products. NOVA SIRIA has over 80 years experience in manufacturing jointing, repairing and hot tapping systems for land and marine pipelines.

Our product range, from design to manufacture in accordance with the specifications of the Quality Management System ISO 9001, follows a processing cycle supported by advanced technologies which allow us to achieve our steadily high quality level.

NOVA SIRIA production is organized in different product types available in multiple versions, characterized by a wide tolerance range on the pipe diameters which allows connecting, repairing and hot tapping pipes with the same or different outside diameters and materials.



NOVA SIRIA: PAST, PRESENT AND FUTURE



Turin, 1932: foundation of the company Società Idrotermica Razionale Industrie Affini S.I.R.I.A. spa. The company manufactures and installs heating and cooling systems and large thermal plants for buildings. In 1933 S.I.R.I.A. spa joins the Industrial Union of Turin and the Association of Metal and Mechanical Industries AMMA and is still a member today. After WWII the company activity widens, specializing in the water sector and in the 60s it is able to offer turnkey water systems. In 1970, thanks to the favourable geographical position of the production plant in Brusasco, at the crossroads of the provinces of Turin, Asti and Alessandria, the production development focuses on the main Northern Italian water utilities. In 1980 the Ferrero family purchases the Company, changes its name into NOVA SIRIA S.r.l. and moves back to Bibiana, at the mouth of the Pellice Valley. The Company enjoys a constant growth so that in 2006 two new plants are acquired in Roletto, a little town between Pinerolo and Turin. The new facilities include areas dedicated to the production and specific tests, with lifting equipment suitable for handling large-sized pieces and a special layout allowing the simultaneous management of emergency and standard productions. In addition to the manufacturing and storage facilities there are a showroom and a conference room with audiovisual equipment for technical and commercial courses and meetings.

During 2006, the Italian sales network is completely re-organised through activation of new Agencies, in particular in the South of Italy. The years from 2009 to 2016 are characterized by important investments meant to speed up the internationalization process, through the attendance to several exhibitions of the sector all over the world and the activation of new distributors in all continents.

In June 2015 Nova Siria became part of the Austrian group Hawle, one of the international leaders in quality and innovation of valves and pipe connection.

NOVA SIRIA PRODUCTS

END RESTRAINT



MULTIGRIP LOW PRESSURE
COUPLING PN 6



MULTIGRIP SINGLE BOLT
COUPLING PN 10 - PN 16



MULTIGRIP LOW PRESSURE
FLANGE ADAPTOR PN 6



MULTIGRIP DOUBLE BOLT
COUPLING PN 10 - PN 16



SMART JOINT
WITH END RESTRAINT SYSTEM



MULTIGRIP FLANGE
ADAPTOR PN 10 - PN 16

NON RESTRAINT



LARGESIZE
SINGLE BOLT COUPLING



MULTISIZE COUPLING



LARGESIZE
DOUBLE BOLT COUPLING



MULTISIZE
FLANGE ADAPTOR



LARGESIZE
FLANGE ADAPTOR



SMART JOINT

DUOFIT - ENCAPSULATION FITTINGS IN TWO PIECES



SPECIAL PRODUCTS



STEPPED
COUPLINGS



NOVAGRIP



ANTI-LEAK CLAMPS



STEPPED
MULTIGRIP



HOT TAPPING
COLLARS



WIDEFLEX



BENDS



JOLLY JOINT



TEE WITH ADAPTABLE
SOCKETS AND
FLANGE TAPPING

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COMPANY PROFILE

- Founded in 1932 in Turin, Italy
- Certificates: ISO 9001
- Distribution in more than 35 countries worldwide
- Flexible production systems for tailor-made solutions



PRODUCT PORTFOLIO

- Repairing and hot tapping couplings
- Connection couplings
- Cast iron adaptable fittings
- Wide range steel couplings
- End restraint fittings
- Tapping collars
- Anti-leak clamps
- Hot tapping collars
- Special steel fittings

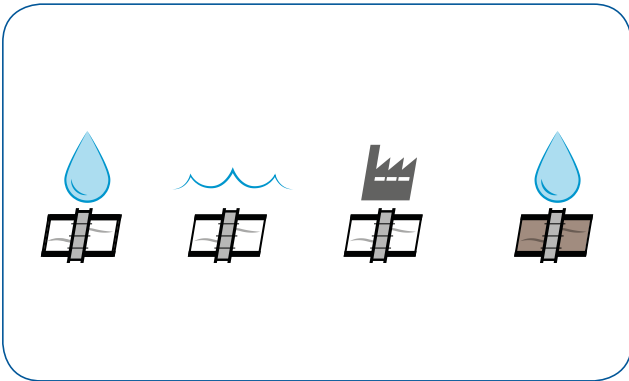


ADVANTAGES OF NOVA SIRIA FITTINGS



○ Advantages of our fittings

- Suitable for pipes of any material
- Wide range
- Choice of body length
- Resistant to corrosion
- Multi-material end restraint system



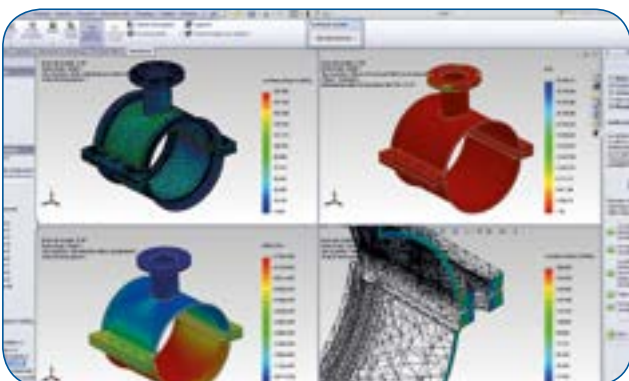
○ Applications

- Water industry
- Marine applications
- Industrial plants
- Sewage industry



○ Tests

- Pressure test
- Cyclical test
- Endurance test
- Temperature test
- Pull-out resistance test
- Angular deflection test



○ Design to the customer needs

NOVA SIRIA uses design systems with “solid modeling 3D” (SolidWorks® - Dassault Systemes) techniques which allow the management of specific structural calculations of “Stress Analysis” about materials’ resistance as well as external and internal stresses.

WIDE RANGE STEEL FITTINGS



VERSIONS	LSN10 / LSN10-D / LSN40	
	STANDARD	OPTIONS
NOMINAL SIZES DN	300 - 2000 and bigger	
PN	From PN 6 to PN 25 (and higher ratings)	
MEDIUM	Potable and raw water	Sea water
BODY	Carbon steel	
COMPRESSION RINGS	Carbon steel	
SEALING GASKETS	EPDM rubber	NBR, NEOPRENE
COMPRESSION BOLTS	Steel with dacromet coating	Grade 304/316 stainless steel
COATING	Rilsan Nylon 11	
RANGE Ø d	30 mm	50 mm
ANGULAR DEFLECTION	From DN300 to DN1000 = +/-3° on each side with coupling ends*	
ANGULAR DEFLECTION	From DN1000 to DN2000: +/-2° on each side with coupling ends*	
	* average datum in the middle of the range	
FOR FLANGED VERSION	EN 1092	Flanges according to different standards on request
FLANGES	PN 6, PN 10, PN 16, PN 25 (PN 40 and higher)	

DESIGN FEATURES OF WIDE RANGE STEEL FITTINGS



1 Central body

Carbon steel central body conveniently built in order to allow a perfect insertion of the gasket inside its dedicated conical seat.

2 Compression ring

Carbon steel compression followers which allow compression of the gasket onto the pipe surface upon tightening the bolts.

3 Gasket

Truncated-cone sealing gasket which can be perfectly inserted between the central body of the coupling and the circumference of the pipe. It allows a complete hydraulic seal and a 30 mm or 50 mm tolerance range on the pipe OD.

4 Bolt holes

Round or square holes for the bolt insertion.

5 Compression bolts

The compression bolts allow the approaching of the compression flanges and the consequent compression of the gasket onto the pipe.

6 Connection flange (Flanged version)

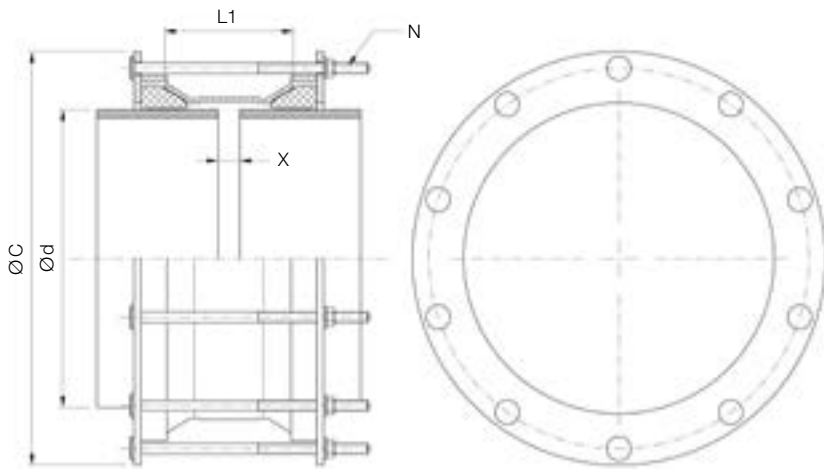
Carbon steel flange.

7 Separate bolt version

Independent tightening of the bolts, improves the coupling alignment and the performance of the gasket.

WIDE RANGE LSN10

SINGLE BOLT COUPLING



Designed and tailor-made on demand, suitable for pipes of any material. The full range starts with DN 300 up to DN 2000 and over.

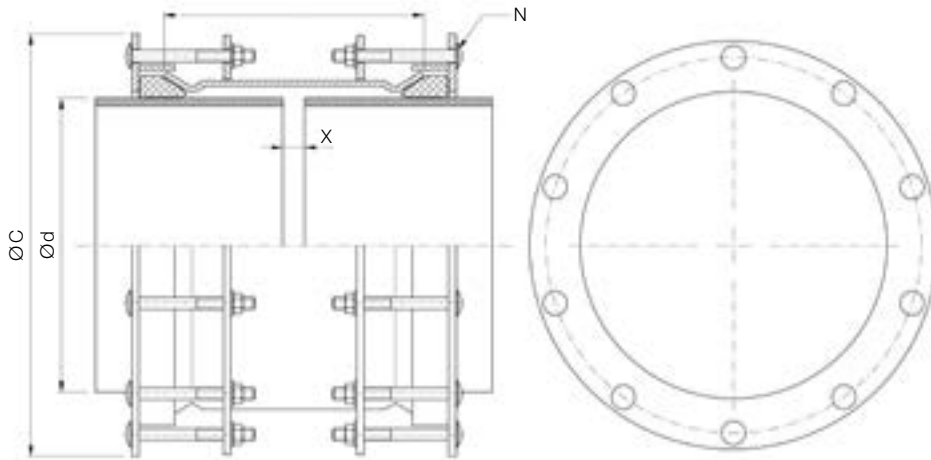
Other sizes or ranges on request

DN	Ød		MOP (PN)	L1	Max. External Dimension ØC	Compression Bolts	Gap X		Weight
	Min.	Max.				Quantity N	Max.	Min.	
300	320	350	6-10-16	175	500	8	50	20	37
	340	370	6-10-16		39				
350	360	390	6-10-16		520	10			40
	390	420	6-10-16		540				43
400	410	440	6-10-16		580	12			45
	435	465	6-10-16		600				47
450	460	490	6-10-16		620	14			50
	490	520	6-10-16		640				52
500	510	540	6-10-16		680	16			54
	535	565	6-10-16		700				57
600	560	590	6-10-16		720	18			59
	590	620	6-10-16		740				61
700	620	650	6-10-16		763	20			64
	645	675	6-10-16		793				66
800	670	700	6-10-16		818	22			69
	695	725	6-10-16		843				71
900	720	750	6-10-16		868	24			73
	750	780	6-10-16		893				76
1000	780	810	6-10-16		923	26			79
	805	835	6-10-16		953				82
1100	835	865	6-10-16		978	28			84
	860	890	6-10-16		1008				86
1200	895	925	6-10-16		1033	30			89
	925	955	6-10-16		1068				92
1300	955	985	6-10-16		1098	32			95
	985	1015	6-10-16		1128				97
1400	1000	1030	6-10-16		1158	34			99
	1030	1060	6-10-16		1173				102
1500	1060	1090	6-10-16	1203	36	104			
	1080	1110	6-10-16	1233		106			
1600	1100	1130	6-10-16	1253	38	108			
	1130	1160	6-10-16	1273		111			
1700	1160	1190	6-10-16	1303	40	113			
	1185	1215	6-10-16	1333		116			
1800	1205	1235	6-10-16	1358	42	118			
	1235	1265	6-10-16	1378		120			
1900	1300	1330	6-10-16	1408	44	127			
	1335	1365	6-10-16	1473		130			
2000	1385	1415	6-10-16	1508	46	134			
	1410	1440	6-10-16	1558		137			
2100	1440	1470	6-10-16	1583	48	139			
	1510	1540	6-10-16	1613		188			
2200	1585	1615	6-10-16	1683	50	196			
	1610	1640	6-10-16	1758		203			
2300	1650	1680	6-10-16	1783	52	217			
	1825	1855	6-10-16	1823		221			
2400	1860	1890	6-10-16	1998	54	239			
	2020	2050	6-10-16	2033		214			
2500	2065	2095	6-10-16	2193	56	239			
				2238		214			

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range

This chart is for indicative purposes. Nova Siria srl can vary the indicated standards (tolerance range, dimensions and materials) according to specifications requested by Customers or to designing needs. Multisize series and wide range steel fittings provide the maximum hydraulic seal, however they do not restrain axial pipes movement (for this type of products please refer to the MULTIGRIP section)

WIDE RANGE LSN10D DOUBLE BOLT COUPLING

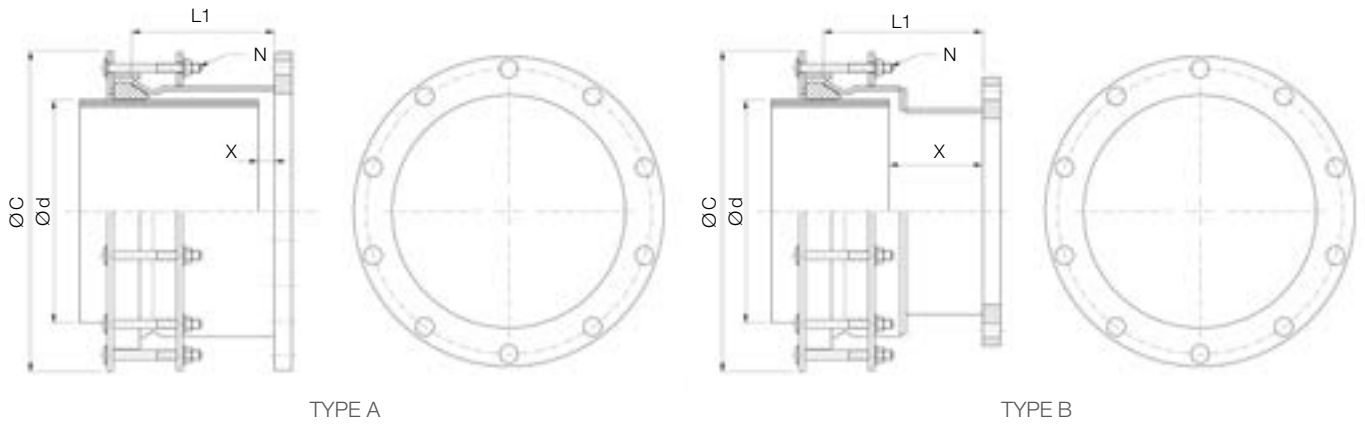


Other sizes or ranges on request

DN	Ø d		MOP (PN)	L1	Max. External Dimension Ø C	Compression Bolts	Gap X		Weight
	Min.	Max.				Quantity N	Max.	Min.	
300	320	350	6-10-16	295	500	16	150	20	73
	340	370	6-10-16		77				
350	360	390	6-10-16		520	20			81
	390	420	6-10-16		540				86
400	410	440	6-10-16		580	24			89
	435	465	6-10-16		600				94
450	460	490	6-10-16		620	28			99
	490	520	6-10-16		640				104
500	510	540	6-10-16		680	32			107
	535	565	6-10-16		700				112
600	560	590	6-10-16		720	36			117
	590	620	6-10-16		740				122
700	620	650	6-10-16		763	40			127
	645	675	6-10-16		793				131
800	670	700	6-10-16		818	44			137
	695	725	6-10-16		843				141
900	720	750	6-10-16		868	48			145
	750	780	6-10-16		893				151
1000	780	810	6-10-16		923	52			156
	805	835	6-10-16		953				162
1100	835	865	6-10-16		978	56			166
	860	890	6-10-16		1008				170
1200	895	925	6-10-16		1033	60			176
	925	955	6-10-16		1068				182
1300	955	985	6-10-16	1098	64	187			
	985	1015	6-10-16	1128		193			
1400	1000	1030	6-10-16	1158	68	196			
	1030	1060	6-10-16	1173		201			
1500	1060	1090	6-10-16	1203	72	206			
	1080	1110	6-10-16	1233		210			
1600	1100	1130	6-10-16	1253	76	214			
	1130	1160	6-10-16	1273		219			
1700	1160	1190	6-10-16	1303	80	224			
	1185	1215	6-10-16	1333		229			
1800	1205	1235	6-10-16	1358	84	233			
	1235	1265	6-10-16	1378		238			
1900	1300	1330	6-10-16	1408	88	250			
	1335	1365	6-10-16	1473		256			
2000	1385	1415	6-10-16	1508	92	265			
	1410	1440	6-10-16	1558		270			
2100	1440	1470	6-10-16	1583	96	275			
	1510	1540	6-10-16	1613		288			
2200	1585	1615	6-10-16	1683	100	301			
	1610	1640	6-10-16	1758		306			
2300	1650	1680	6-10-16	1783	104	313			
	1825	1855	6-10-16	1823		329			
2400	1860	1890	6-10-16	1883	108	335			
	2020	2050	6-10-16	1998		363			
2500	2065	2095	6-10-16	2033	112	371			
				2193					
				2238					

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range
 This chart is for indicative purposes. Nova Siria srl can vary the indicated standards (tolerance range, dimensions and materials) according to specifications requested by Customers or to designing needs.
 Multisize series and wide range steel fittings provide the maximum hydraulic seal, however they do not restrain axial pipes movement (for this type of products please refer to the MULTIGRIP section)

WIDE RANGE LSN40 FLANGE ADAPTOR



Other sizes or ranges on request

DN	Ø d		Flange DN	Flange PN	Type	L1	Max. External Dimension ØC	Compression Bolts	Gap X		Weight
	Min.	Max						Quantity N	Max.	Min.	
300	320	350	300	6-10-16	B	285	500	8	210	170	62
350	340	370	350	6-10-16	A	255	520	10	180	25	64
	360	390		6-10-16			540				65
400	390	420	400	6-10-16	A	255	580	12	180	25	76
	410	440		6-10-16			600				77
450	435	465	450	6-10-16	A	255	620	14	210	170	90
	460	490		6-10-16			640				92
500	490	520	500	6-10-16	B	285	680	16	180	25	113
	510	540		6-10-16			700				114
	535	565		6-10-16			720				117
600	590	620	600	6-10-16	A	255	740	18	210	170	119
	620	650		6-10-16			763				153
	645	675		6-10-16			793				156
700	670	700	700	6-10-16	B	285	818	20	210	170	158
	695	725		6-10-16			843				165
	720	750		6-10-16			868				167
	750	780		6-10-16			893				169
800	780	810	800	6-10-16	A	255	923	22	180	25	172
	805	835		6-10-16			953				176
	835	865		6-10-16			978				178
	860	890		6-10-16			1008				181
900	895	925	900	6-10-16	B	285	1033	24	210	170	183
	925	955		6-10-16			1068				201
	955	985		6-10-16			1098				204
1000	985	1015	1000	6-10-16	A	255	1128	26	180	25	206
	1000	1030		6-10-16			1158				211
	1030	1060		6-10-16			1173				212
	1060	1090		6-10-16			1203				213
1200	1185	1215	1200	6-10-16	B	285	1233	28	210	170	247
	1205	1235		6-10-16			1358				315
	1235	1265		6-10-16			1378				317
1400	1385	1415	1400	6-10-16	A	255	1408	30	180	25	320
	1410	1440		6-10-16			1558				367
	1440	1470		6-10-16			1583				370
1600	1585	1615	1600	6-10-16	A	255	1613	34	210	170	372
	1610	1640		6-10-16			1758				473
	1650	1680		6-10-16			1783				475
1800	1825	1855	1800	6-10-16	A	255	1823	40	180	25	479
	1860	1890		6-10-16			1998				523
2000	2020	2050	2000	6-10-16	A	255	2033	42	210	170	526
	2065	2095		6-10-16			2193				631
				6-10-16			2238				635

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range
 This chart is for indicative purposes. Nova Siria srl can vary the indicated standards (tolerance range, dimensions and materials) according to specifications requested by Customers or to designing needs.
 Multisize series and wide range steel fittings provide the maximum hydraulic seal,
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NOTES



COUPLINGS AND FLANGE ADAPTORS



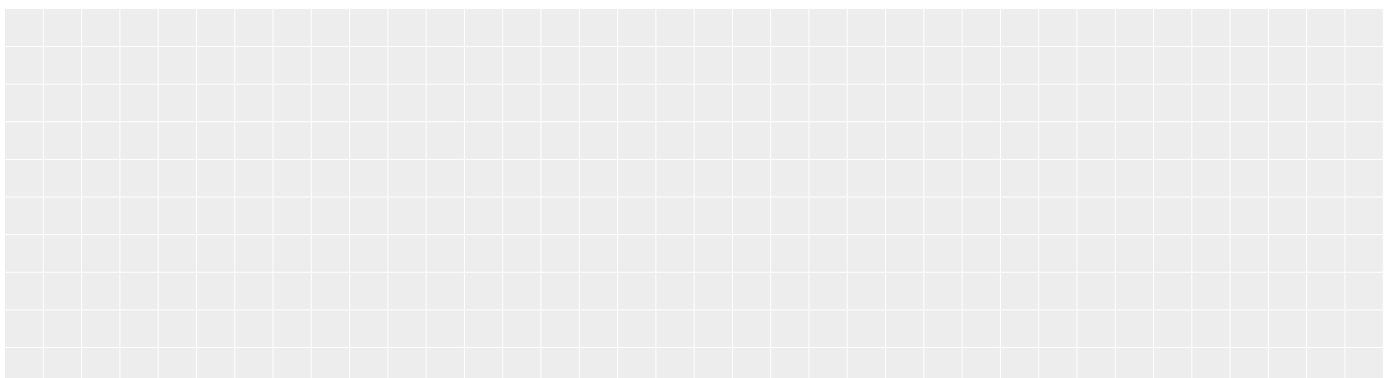
VERSIONS	M10 / M40	
	STANDARD	OPTIONS
NOMINAL SIZES (DN)	350 - 1200	
PN	From PN 6 to PN 16	
MEDIUM	Potable and raw water	Sea water
BODY	Carbon steel	
COMPRESSION RINGS	Ductile iron $\leq \text{Ød } 650$ * Carbon steel $\geq \text{Ød } 652$ **	
SEALING GASKETS	EPDM rubber	NBR
COMPRESSION BOLTS	Steel with dacromet coating	Grade 304/316 stainless steel
COATING	Rilsan Nylon 11	
RANGE Ød	* $30 \text{ mm} \leq \text{Ød } 650$ ** $24 \text{ mm} \geq \text{Ød } 652$	
ANGULAR DEFLECTION	From DN350 to DN700 = $\pm 3^\circ$ on each side with coupling ends*	
ANGULAR DEFLECTION	From DN800 to DN900 = $\pm 2^\circ$ on each side with coupling ends*	
ANGULAR DEFLECTION	From DN1000 to DN1200 = $\pm 1.5^\circ$ on each side with coupling ends*	
	*average datum in the middle of the range	
FOR FLANGED VERSION	EN 1092	
FLANGES	PN 6, PN 10, PN 16	

DESIGN FEATURES OF MULTISIZE COUPLINGS AND FLANGE ADAPTORS



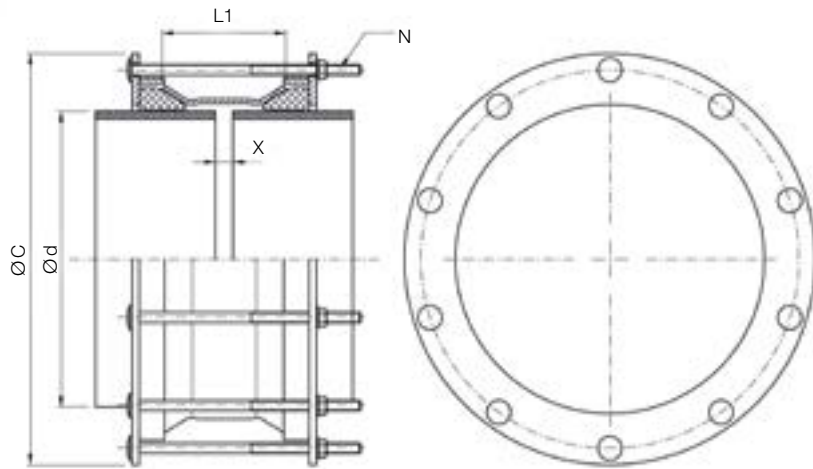
- 1 Central body**
 Carbon steel central body conveniently built in order to allow a perfect insertion of the gasket inside its dedicated conical seat.
- 2 Compression ring**
 Ductile iron and carbon steel compression followers which allow compression of the gasket onto the pipe surface upon tightening the bolts.
- 3 Gasket**
 Truncated-cone sealing gasket which can be perfectly inserted between the central body of the coupling and the circumference of the pipe. It allows a complete hydraulic seal and a 24 mm or 30 mm tolerance range on the pipe OD.
- 4 Bolt holes**
 Round or square holes for the bolts insertion.
- 5 Compression bolts**
 The compression bolts allow the approaching of the compression flanges and the consequent compression of the gasket onto the pipe.
- 6 Connection flange (Flanged version)**
 Carbon steel flange.

NOTES



MULTISIZE M10

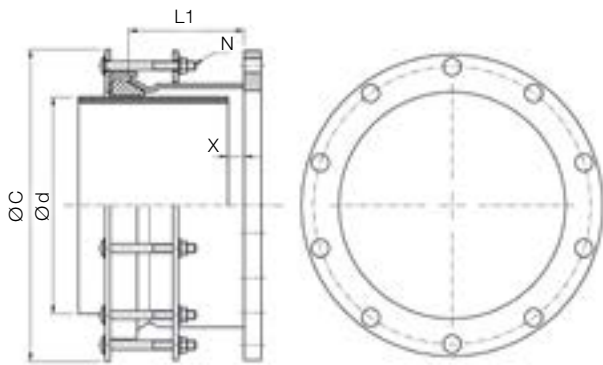
SINGLE BOLT COUPLING



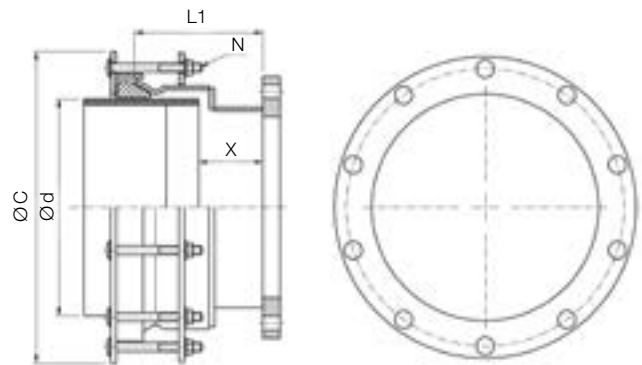
DN	Ød		MOP (PN)	L1	Max. External Dimension ØC	Compression Bolts Quantity N	Gap X		Weight	
	Min.	Max.					Max.	Min.		
350	340	370	6-10-16	170	546	10	60	20	35	
	365	395	6-10-16		571				37	
400	390	420	6-10-16		596				40	
	410	440	6-10-16		616				42	
450	438	468	6-10-16		644	12			45	
	465	495	6-10-16		671				47	
500	490	520	6-10-16		696				14	49
	518	548	6-10-16		724					53
600	590	620	6-10-16		796	16				58
	620	650	6-10-16		826					60
700	652	676	6-10-16		819				18	62
	680	704	6-10-16		847					65
	700	724	6-10-16	867	67					
	726	750	6-10-16	893	72					
800	754	778	6-10-16	921	20	75				
	792	816	6-10-16	959		79				
	806	830	6-10-16	973		82				
	824	848	6-10-16	991		83				
900	856	880	6-10-16	1023	22	85				
	882	906	6-10-16	1049		88				
	902	926	6-10-16	1069		89				
	934	958	6-10-16	1101		92				
1000	960	984	6-10-16	1127	24	95				
	996	1020	6-10-16	1163		97				
	1016	1040	6-10-16	1183		100				
	1036	1060	6-10-16	1203		102				
	1068	1092	6-10-16	1235	104					
	1100	1124	6-10-16	1267	108					
1200	1116	1140	6-10-16	1283	26	109				
	1140	1164	6-10-16	1307		111				
	1180	1204	6-10-16	1347		115				
	1206	1230	6-10-16	1373		117				
	1244	1268	6-10-16	1411		119				

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range
 Multisize series and wide range steel fittings provide the maximum hydraulic seal,
 however they do not restrain axial pipes movement (for this type of products please refer to the MULTIGRIP section)

MULTISIZE M40 FLANGE ADAPTOR



TYPE A



TYPE B

DN	Ød		Flange DN	Flange PN	Type	L1	Max. External Dimension ØC	Compression Bolts		Gap X		Weight
	Min.	Max.						Quantity N	Max.	Min.		
350	340	370	350	10-16	A	216	546	10	160	20	62	
	365	395		10-16			571				64	
400	390	420	400	10-16			596				73	
	410	440	10-16	616			75					
450	438	468	450	10-16			644	88				
	465	495		10-16			671	90				
500	490	520	500	10-16			696	110				
	518	548		10-16			724	112				
600	590	620	600	10-16			796	150				
	620	650		10-16			826	152				
	652	676		10-16			819	154				
700	680	704	700	10-16			847	156				
	700	724		10-16	867	158						
	726	750		10-16	893	161						
	754	778		10-16	921	165						
800	792	816	800	10-16	959	170	120	165				
	806	830		10-16	973	160	20	172				
	824	848		10-16	991	175						
	856	880		10-16	1023	170	120	177				
900	882	906	900	10-16	1049	194						
	902	926		10-16	1069	160	20	196				
	934	958		10-16	1101	198						
	960	984		10-16	1127	170	120	200				
1000	996	1020	1000	10-16	1163	235						
	1016	1040		10-16	1183	160	20	237				
	1036	1060		10-16	1203	239						
	1068	1092		10-16	1235	170	120	241				
	1100	1124		10-16	1267	244						
	1116	1140		10-16	1283	180	120	245				
	1140	1164		10-16	1307	24	247					
1200	1180	1204	1200	10-16	1347	308						
	1206	1230		10-16	1373	160	20	310				
	1244	1268		10-16	1411	26	313					

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range Multisize series and wide range steel fittings provide the maximum hydraulic seal, however they do not restrain axial pipes movement (for this type of products please refer to the MULTIGRIP section)

LOW PRESSURE END RESTRAINT COUPLINGS AND FLANGE ADAPTORS



VERSIONS	MGL-S / MGL-F	
	STANDARD	OPTIONS
NOMINAL SIZES DN	300 - 1000	
PN	PN 6	
MEDIUM	Potable and raw water	Sea water
BODY	Carbon steel	
COMPRESSION RINGS	Carbon steel	
SEALING GASKETS	EPDM rubber	NBR
COMPRESSION BOLTS	Steel with dacromet coating	Grade 304/316 stainless steel
END RESTRAINT GRIPPERS	Tempered steel with dacromet coating	Martensitic stainless steel
COATING	Rilsan Nylon 11	
RANGE Ød	20 mm	
ANGULAR DEFLECTION	From DN300 to DN1000: +/-2° on each side with coupling ends*	
* average datum in the middle of the range, before tightening the end restraint system		
FOR FLANGED VERSION	EN 1092	
FLANGES	PN 6 - 10 - 16	

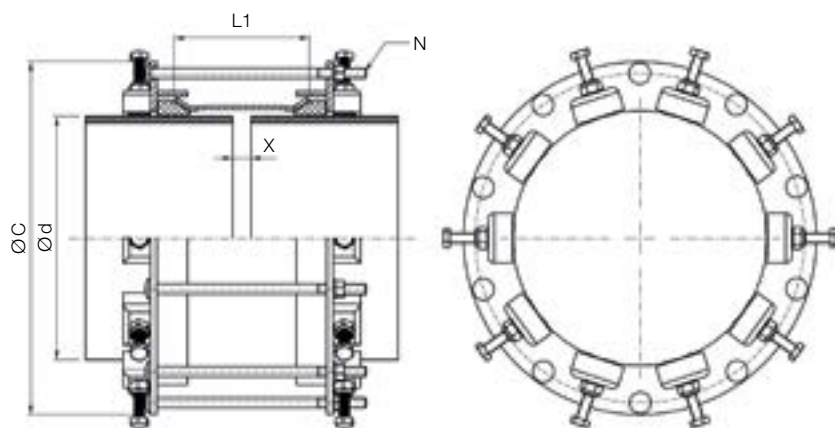
DESIGN FEATURES OF MULTIGRIP LOW PRESSURE END RESTRAINT COUPLINGS AND FLANGE ADAPTORS



- 1 Central body**
Carbon steel central body conveniently built in order to allow a perfect insertion of the gasket inside its dedicated conical seat.
- 2 Compression ring**
Carbon steel compression followers which allow compression of the gasket onto the pipe surface upon tightening the bolts.
- 3 Gasket**
Truncated-cone sealing gasket which can be perfectly inserted between the central body of the coupling and the circumference of the pipe. It allows a complete hydraulic seal and a 20 mm tolerance range on the pipe OD.
- 4 Bolt holes**
Round or square holes for the bolt insertion.
- 5 Compression bolts**
The compression bolts allow the approaching of the compression flanges and the consequent compression of the gasket onto the pipe.
- 6 Radial set of pull-out resistance grippers**
Manufactured in C40 tempered steel, they allow the total locking of the pipe. End restraint grippers can be used on PE, steel, DCI and PVC pipe lines and they guarantee a pull-out resistance action during the installation and their special design allows an easy assembly and disassembly of the coupling without damaging the Rilsan coating.
- 7 End restraint box**
Manufactured in carbon steel, optimizes the pull-out resistance action, also avoiding the rotation of the grippers during the tightening phase.
- 8 Connection flange (Flanged version)**
Carbon steel flange.

MULTIGRIP MGL-S

LOW PRESSURE



PN 6 RATED HYDRAULIC SEALING AND END RESTRAINT SYSTEM

DN	Ød		L1	Max. External Dimension ØC	Compression Bolts	Gap X		Weight
	Min.	Max.			Quantity N	Max.	Min.	
300	305	325	216	490	9	120	25	58
	315	335		500				60
350	345	365		530				63
	370	390		550				65
400	390	410		570				67
	420	440		600				70
450	445	465		630	80			
	470	490		650	82			
500	490	510		670	12			84
	500	520		680				85
	520	540		700				88
	550	570		730				93
600	600	620	783	14	107			
	625	645	808		110			
700	700	720	883	16	123			
	730	750	913		127			
800	790	810	973	18	138			
	805	825	988		140			
	830	850	1013		142			
900	890	910	1073	20	154			
	905	925	1088		156			
	930	950	1113		159			
1000	990	1010	1173	22	170			
	1005	1025	1188		172			
	1035	1055	1218		175			

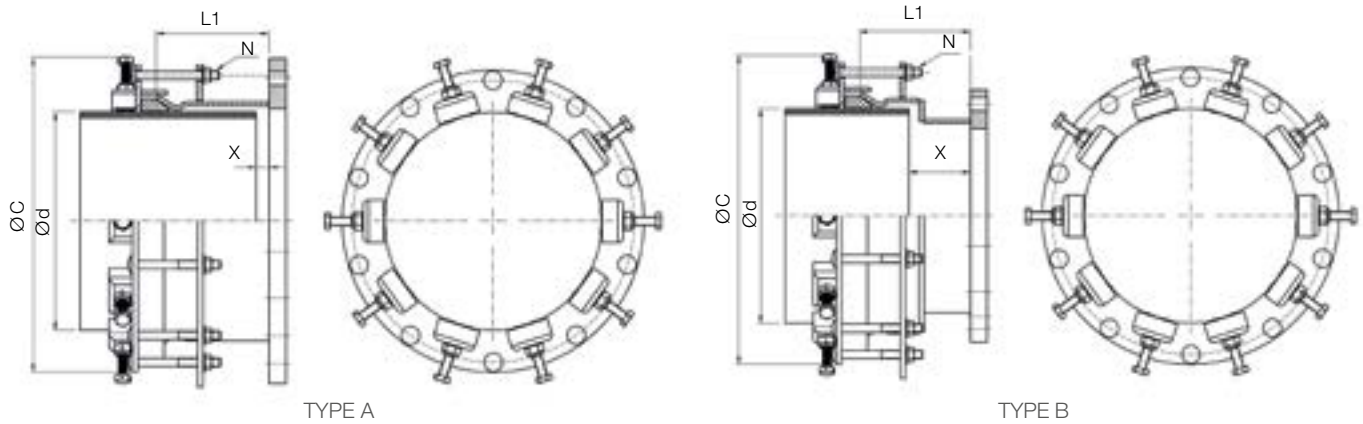
The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range

NOVA SIRIA end restraint fittings are suitable for the following pipes: steel, CI/DI, PE, pressure PVC.

All end restraint fittings installed on PE or pressure PVC pipes must be integrated with an internal reinforcing liner provided or approved by NOVA SIRIA.

MULTIGRIP MGL-F

LOW PRESSURE FLANGE ADAPTOR



PN 6 RATED HYDRAULIC SEALING AND END RESTRAINT SYSTEM

DN	Ød		Flange DN	Flange PN	Type	L1	Max. External Dimension ØC	Compression Bolts	Gap X		Weight				
	Min.	Max.						Quantity N	Max.	Min.					
300	305	325	300	6-10-16	A	216	490	9	160	25	56				
	315	335		6-10-16			500				57				
350	345	365	350	6-10-16			530				68				
	370	390		6-10-16			550				69				
400	390	410	400	6-10-16			570				78				
	420	440		6-10-16			600				80				
450	445	465	450	6-10-16			630				96				
	470	490		6-10-16			650				98				
500	490	510	500	6-10-16			B				226	670	12	170	90
	500	520		6-10-16				680				118			
	520	540		6-10-16				700				119			
	550	570		6-10-16				730				130			
600	600	620	600	6-10-16	A	216	783	14	160	25	166				
	625	645		6-10-16			808				168				
700	700	720	700	6-10-16			883	16			161				
	730	750		6-10-16			913				163				
800	790	810	800	6-10-16			973	18			192				
	805	825		6-10-16			988				193				
	830	850		6-10-16			1013				195				
900	890	910	900	6-10-16			1073	20			218				
	905	925		6-10-16			1088				219				
	930	950		6-10-16			1113				220				
1000	990	1010	1000	6-10-16			1173	22			260				
	1005	1025		6-10-16			1188				261				
	1035	1055		6-10-16	1218	263									

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range

NOVA SIRIA end restraint fittings are suitable for the following pipes: steel, CI/DI, PE, pressure PVC.

All end restraint fittings installed on PE or pressure PVC pipes must be integrated with an internal reinforcing liner provided or approved by NOVA SIRIA.



END RESTRAINT FITTINGS



VERSIONS	MGR-S / MGR-D / MGR-F	
	STANDARD	OPTIONS
NOMINAL SIZES DN	350 - 1400 and bigger	
PN	From PN 10 to PN 16 (higher pressures on request)	
MEDIUM	Potable and raw water	Sea water
BODY	Carbon steel	
COMPRESSION RINGS	Carbon steel	
SEALING GASKETS	EPDM rubber	NBR, NEOPRENE
COMPRESSION BOLTS	Steel with dacromet coating	Grade 304 / 316 stainless steel
END RESTRAINT GRIPPERS	Tempered steel with dacromet coating	Martensitic stainless steel
COATING	Rilsan Nylon 11	
RANGE Ød	30 mm	
ANGULAR DEFLECTION	From DN350 to DN1000: +/-3° on each side with coupling ends*	
ANGULAR DEFLECTION	From DN1000 to DN1400: +/-2° on each side with coupling ends*	
	* average datum in the middle of the range, before tightening the end restraint system	
FOR FLANGED VERSION	EN 1092	Flanges according to different standards on request
FLANGES	PN 10, PN 16, PN 25, PN 40 and higher ratings	

DESIGN FEATURES OF MULTIGRIP END RESTRAINT FITTINGS



1 Central body

Carbon steel central body conveniently built in order to allow a perfect insertion of the gasket inside its dedicated conical seat.

2 Compression ring

Carbon steel compression followers which allow compression of the gasket onto the pipe surface upon tightening the bolts.

3 Gasket

Truncated-cone sealing gasket which can be perfectly inserted between the central body of the coupling and the circumference of the pipe. It allows a complete hydraulic seal and a 30 mm tolerance range on the pipe OD.

4 Bolt holes

Round or square holes for the bolt insertion.

5 Compression bolts

The compression bolts allow the approaching of the compression flanges and the consequent compression of the gasket onto the pipe.

6 Radial set of pull-out resistance grippers

Manufactured in C40 tempered steel, they allow the total locking of the pipe. End restraint grippers, which can be used on PE, steel, DCI and PVC pipe lines, guarantee a pull-out resistance action and their special design allows an easy assembly and disassembly of the coupling without damaging the Rilsan coating.

7 End restraint containing ring

Manufactured in carbon steel, optimizes the pull-out resistance action, also avoiding the rotation of the grippers during the tightening phase.

8 Connection flange (Flanged version)

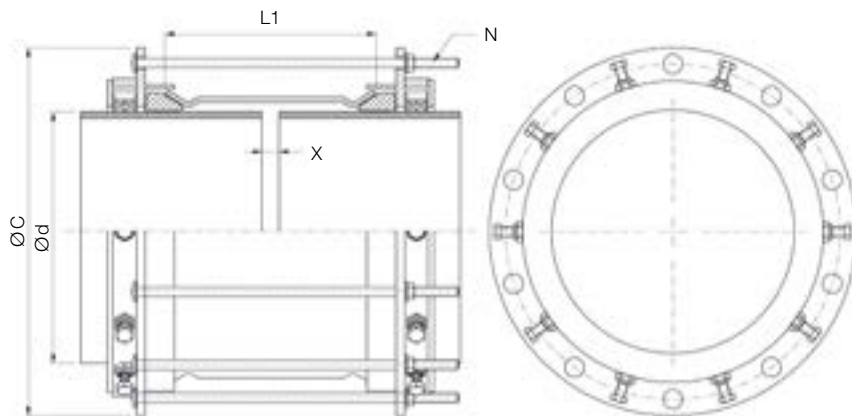
Carbon steel flange.

9 Separate bolts version

The bolts tightening is independent in order to improve the coupling centering and the performances of the gasket.

MULTIGRIP MGR-S PN10

SINGLE BOLT COUPLING



PN 10 RATED HYDRAULIC SEALING AND END RESTRAINT SYSTEM

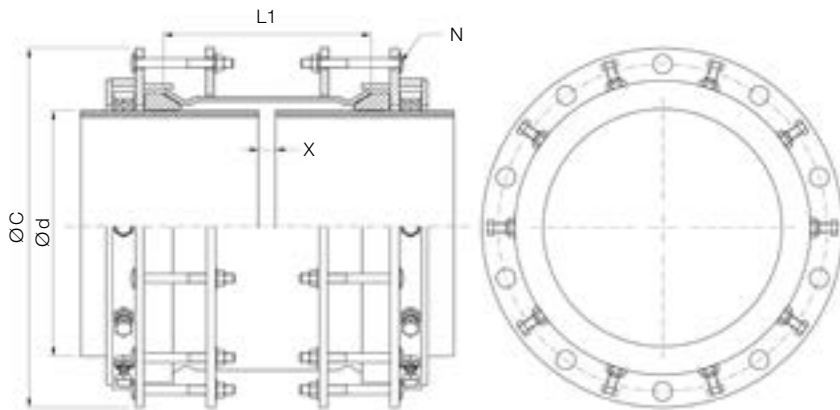
Other sizes or ranges on request

DN	Ød		L1	Max. External Dimension ØC	Compression Bolts	Gap X		Weight	
	Min.	Max.			Quantity N	Max.	Min.		
350	340	370	355	560	9	220	25	101	
	360	390		580				105	
400	385	415		600				110	
	415	445		640				117	
450	440	470		660	12			131	
	465	495		680				136	
500	490	520		720	14			142	
	515	545		740				148	
	545	575		788				159	
600	595	625		808	15			171	
	615	645		828				175	
700	695	725		908	18			196	
	720	750		933				224	
800	785	815		998				20	239
	795	825		1008					241
	825	855		1038	277				
900	885	915		1098	22			292	
	900	930		1113				296	
1000	930	960		1143	24			308	
	985	1015		1198				322	
	1000	1030	1213	326					
1100	1030	1060	1243	30	359				
	1100	1130	1313		378				
	1135	1165	1348		403				
1200	1185	1215	1398	32	418				
	1205	1235	1418		423				
	1240	1270	1453		438				
1400	1385	1415	1598	-	-				
	1405	1435	1618		-				
	1445	1475	1658		-				

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range. This chart is for indicative purposes. Nova Siria srl can vary the indicated standards (tolerance range, dimensions and materials) according to specifications requested by Customers or to designing needs. NOVA SIRIA end restraint fittings are suitable for the following pipes: steel, ci/DI, PE, pressure PVC. All end restraint fittings installed on pe Or pressure PVC Pipes must be integrated with an internal reinforcing liner provided or approved by noVA SIRIA.

MULTIGRIP MGR-D PN10

DOUBLE BOLT COUPLING



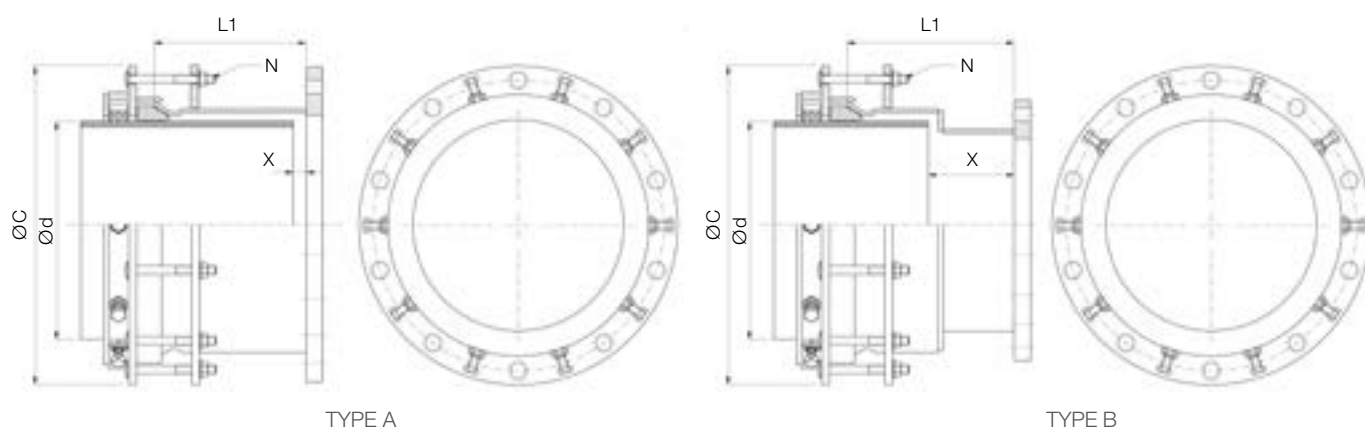
PN 10 RATED HYDRAULIC SEALING AND END RESTRAINT SYSTEM

Other sizes or ranges on request

DN	Ø d		L1	Max. External Dimension Ø C	Compression Bolts	Gap X		Weight	
	Min.	Max.			Quantity N	Max.	Min.		
350	340	370	355	560	18	220	25	127	
	360	390		580				133	
400	385	415		600				144	
	415	445		640				148	
450	440	470		660				24	163
	465	495		680					170
500	490	520		720	177				
	515	545		740	184				
560	545	575		788	28			207	
	600	595		625	808			30	222
615		645		828	228				
700	695	725		908	36			254	
	720	750		933				284	
800	785	815		998				40	304
	795	825		1008					307
	825	855		1038					347
900	885	915		1098				44	367
	900	930		1113	372				
1000	930	960	1143	48	386				
	985	1015	1198		404				
	1000	1030	1213		409				
1100	1030	1060	1243	60	447				
	1100	1130	1313		471				
	1135	1165	1348		499				
1200	1185	1215	1398	64	517				
	1205	1235	1418		525				
	1240	1270	1453		542				
1400	1385	1415	1598	64	-				
	1405	1435	1618		-				
	1445	1475	1658		-				

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range
 This chart is for indicative purposes. Nova Siria srl can vary the indicated standards (tolerance range, dimensions and materials) according to specifications requested by Customers or to designing needs.
 NOVA SIRIA end restraint fittings are suitable for the following pipes: steel, ci/DI, PE, pressure PVC.
 All end restraint fittings installed on pe Or pressure PVC Pipes must be integrated with an internal reinforcing liner provided or approved by noVA SIRIA.

MULTIGRIP MGR-F PN10 FLANGE ADAPTOR



PN 10 RATED HYDRAULIC SEALING AND END RESTRAINT SYSTEM

Other sizes or ranges on request

DN	Ø d		Flange DN	Flange PN	Type	L1	Max. External Dimension Ø C	Compression Bolts	Gap X		Weight		
	Min.	Max.						Quantity N	Max.	Min.			
350	340	370	350	6-10-16	A	296	560	9	220	25	106		
	360	390		6-10-16			580				109		
400	385	415	400	6-10-16			600				122		
	415	445		6-10-16			640				127		
450	440	470	450	6-10-16			660				12	143	
	465	495		6-10-16			680						148
500	490	520	500	6-10-16			720	160					
	515	545		6-10-16			740	165					
	545	575		6-10-16			B	326	788	14	250	170	178
600	595	625	600	6-10-16			A	296	808	15	220	25	203
	615	645		6-10-16					828				207
700	695	725	700	6-10-16					908	18			238
	720	750		6-10-16	933	255							
800	785	815	800	6-10-16	998	290							
	795	825		6-10-16	1008	292							
	825	855		6-10-16	1038	315							
900	885	915	900	6-10-16	1098	20			342				
	900	930		6-10-16	1113					345			
	930	960		6-10-16	1143					366			
1000	985	1015	1000	6-10-16	1198	22			403				
	1000	1030		6-10-16	1213					407			
	1030	1060		6-10-16	1243		460						
1200	1185	1215	1200	6-10-16	1398	24	556						
	1205	1235		6-10-16	1418			561					
	1240	1270		6-10-16	1453			580					
1400	1385	1415	1400	6-10-16	1598	30	-						
	1405	1435		6-10-16	1618		-						
	1445	1475		6-10-16	1658		-						

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range

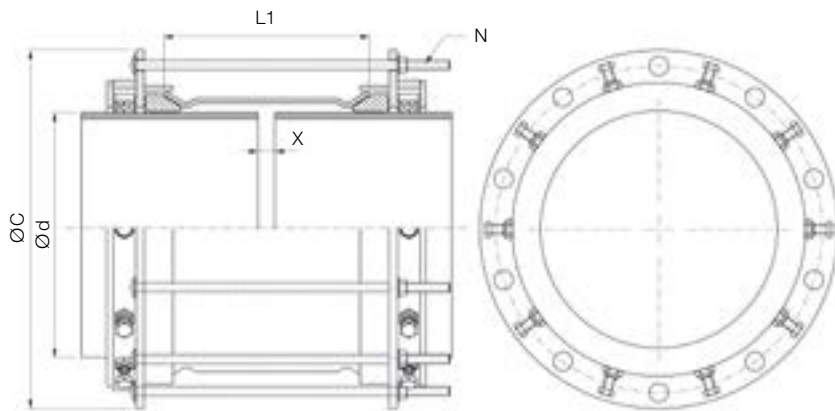
This chart is for indicative purposes. Nova Siria srl can vary the indicated standards (tolerance range, dimensions and materials) according to specifications requested by Customers or to designing needs.

NOVA SIRIA end restraint fittings are suitable for the following pipes: steel, ci/DI, PE, pressure PVC.

All end restraint fittings installed on pe Or pressure PVC Pipes must be integrated with an internal reinforcing liner provided or approved by noVA SIRIA.

MULTIGRIP MGR-S PN16

SINGLE BOLT COUPLING



PN 16 RATED HYDRAULIC SEALING AND END RESTRAINT SYSTEM

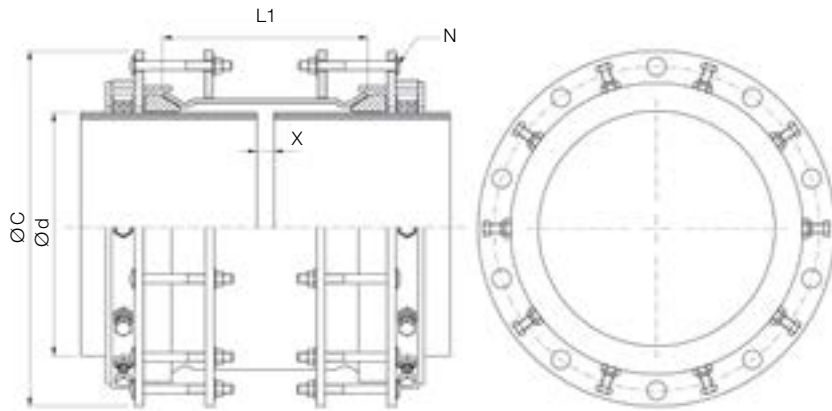
Other sizes or ranges on request

DN	Ød		L1	Max. External Dimension ØC	Compression Bolts	Gap X		Weight
	Min.	Max.			Quantity N	Max.	Min.	
350	340	370	355	560	9	220	25	119
	360	390		580				124
400	385	415		600				130
	415	445		640				139
450	440	470		660	12			153
	465	495		680				159
500	490	520		720				166
	515	545		740				173
	545	575		788	181			
600	595	625		808	15			192
	615	645		828				197
700	695	725		908	18			235
	720	750		933				245
800	785	815		998				262
	795	825		1008				265
	825	855		1038	285			
900	885	915	1098	20	301			
	900	930	1113		305			
1000	930	960	1143		345			
	985	1015	1198		361			
	1000	1030	1213	366				
1100	1030	1060	1243	22	380			
	1100	1130	1313		-			
	1135	1165	1348		-			
1200	1185	1215	1398	24	-			
	1205	1235	1418		-			
	1240	1270	1453		-			
1400	1385	1415	1598	30	-			
	1405	1435	1618		-			
	1445	1475	1658		-			

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range. This chart is for indicative purposes. Nova Siria srl can vary the indicated standards (tolerance range, dimensions and materials) according to specifications requested by Customers or to designing needs. NOVA SIRIA end restraint fittings are suitable for the following pipes: steel, ci/DI, PE, pressure PVC. All end restraint fittings installed on pe Or pressure PVC Pipes must be integrated with an internal reinforcing liner provided or approved by noVA SIRIA.

MULTIGRIP MGR-D

DOUBLE BOLT COUPLING



PN 16 RATED HYDRAULIC SEALING AND END RESTRAINT SYSTEM

Other sizes or ranges on request

DN	Ød		L1	Max. External Dimension ØC	Compression Bolts Quantity N	Gap X		Weight	
	Min.	Max.				Max.	Min.		
350	340	370	355	560	18	220	25	156	
	360	390		580				163	
400	385	415		600				172	
	415	445		640				182	
450	440	470		660	24			199	
	465	495		680				207	
500	490	520		720				28	216
	515	545		740					225
560	545	575		788	30			228	
	595	625		808				244	
600	615	645		828	36			250	
	695	725		908				295	
700	720	750		933				40	307
	785	815		998					329
800	795	825		1008	44			332	
	825	855		1038				355	
	885	915		1098				376	
900	900	930		1113	48			381	
	930	960		1143				425	
1000	985	1015		1198	60			446	
	1000	1030	1213	451					
	1030	1060	1243	465					
1100	1100	1130	1313	64	-				
	1135	1165	1348		-				
1200	1185	1215	1398	-	-				
	1205	1235	1418		-				
	1240	1270	1453		-				
1400	1385	1415	1598	-	-				
	1405	1435	1618		-				
	1445	1475	1658		-				

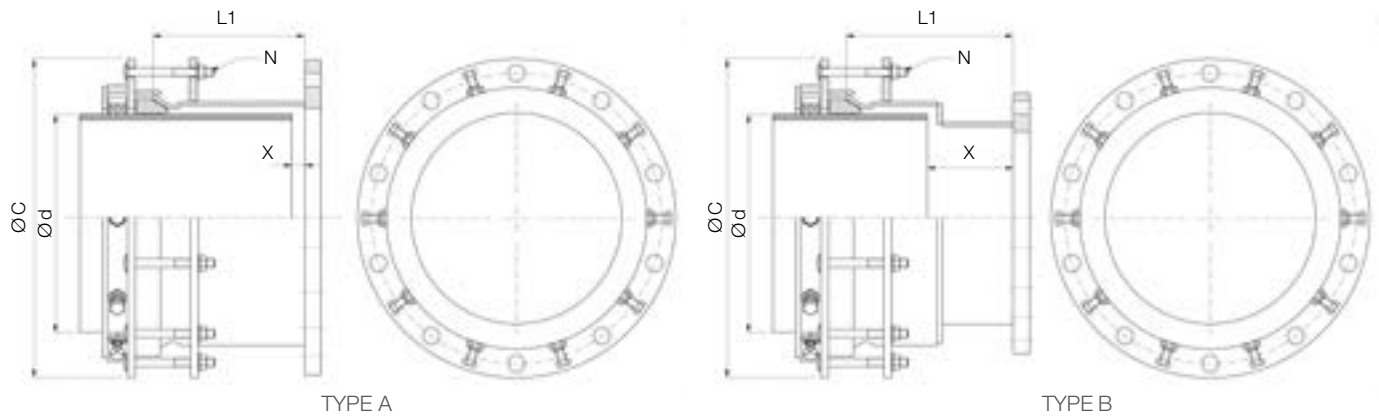
The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range

This chart is for indicative purposes. Nova Siria srl can vary the indicated standards (tolerance range, dimensions and materials) according to specifications requested by Customers or to designing needs.

NOVA SIRIA end restraint fittings are suitable for the following pipes: steel, ci/DI, PE, pressure PVC.

All end restraint fittings installed on pe Or pressure PVC Pipes must be integrated with an internal reinforcing liner provided or approved by noVA SIRIA.

MULTIGRIP MGR-F FLANGE ADAPTOR



PN 16 RATED HYDRAULIC SEALING AND END RESTRAINT SYSTEM

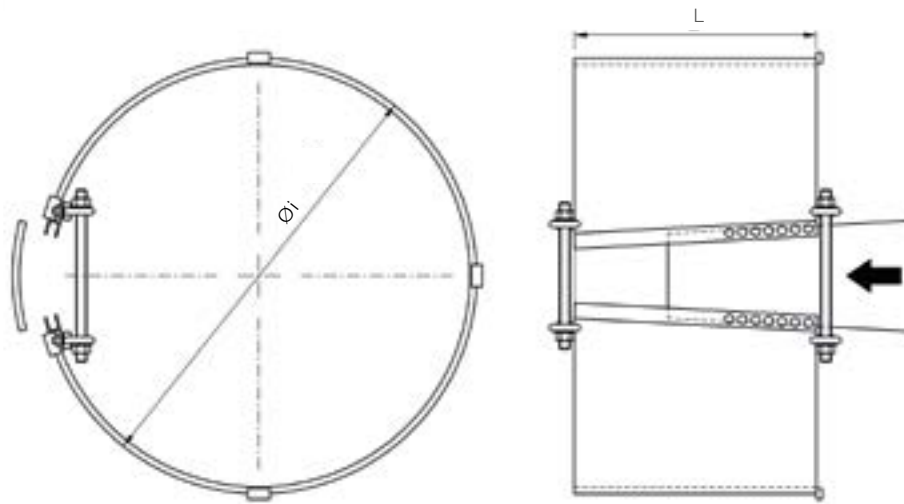
Other sizes or ranges on request

DN	Ød		Flange DN	Flange PN	TYPE	L1	Max. External Dimension ØC	Compression Bolts	Gap X		Weight		
	Min.	Max.						Quantity N	Max.	Min.			
350	340	370	350	6-10-16	A	296	560	9	220	25	132		
	360	390		6-10-16			580				136		
400	385	415	400	6-10-16			600				150		
	415	445		6-10-16			640				157		
450	440	470	450	6-10-16			660	178					
	465	495		6-10-16			680	183					
500	490	520	500	6-10-16			720	208					
	515	545		6-10-16			740	213					
	545	575		6-10-16			B	326			788	14	250
600	595	625	600	6-10-16			A	808			15	220	25
	615	645		6-10-16	828	265							
700	695	725	700	6-10-16	908	278							
	720	750		6-10-16	933	291							
800	785	815	800	6-10-16	998	330							
	795	825		6-10-16	1008	332							
	825	855		6-10-16	1038	342							
900	885	915	900	6-10-16	1098	355							
	900	930		6-10-16	1113	375							
	930	960		6-10-16	1143	440							
1000	985	1015	1000	6-10-16	1198	490							
	1000	1030		6-10-16	1213	494							
	1030	1060		6-10-16	1243	510							
1200	1185	1215	1200	6-10-16	1398	-							
	1205	1235		6-10-16	1418	-							
	1240	1270		6-10-16	1453	-							
1400	1385	1415	1400	6-10-16	1598	-							
	1405	1435		6-10-16	1618	-							
	1445	1475		6-10-16	1658	30	-						

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range
 This chart is for indicative purposes. Nova Siria srl can vary the indicated standards (tolerance range, dimensions and materials) according to specifications requested by Customers or to designing needs.
 NOVA SIRIA end restraint fittings are suitable for the following pipes: steel, ci/DI, PE, pressure PVC.
 All end restraint fittings installed on pe Or pressure PVC Pipes must be integrated with an internal reinforcing liner provided or approved by noVA SIRIA.

MULTIGRIP LINERS

LINERS



Always use the **NOVA SIRIA** reinforcing liner inside the pipe when installing an end restraint coupling onto PE and pressure PVC pipes. Liners are manufactured in carbon steel and coated with Rilsan Nylon 11 anticorrosion coating.

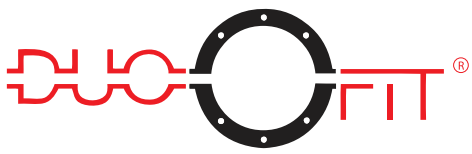
The liners reinforce the section of the pipe intended for the **MULTIGRIP** improving the overall performance of the radial grip. The design of the reinforcing liner can involve the use of one or more expansion wedges according to the ovality and tolerance of the PE/PVC pipe.



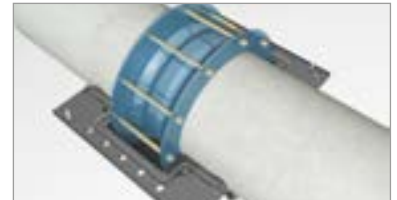
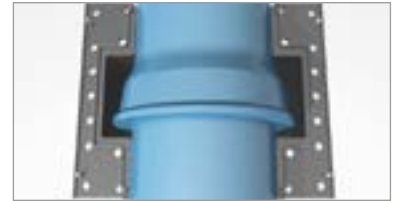
Øi	SDR			
	7,4	11	17	26
Ø PE pipe	Øi	Øi	Øi	Øi
355	258,0	290,6	312,8	327,8
400	290,6	327,4	352,6	369,4
450	327,0	368,2	396,6	415,6
500	-	409,2	440,6	461,8
560	-	458,4	493,6	517,2
630	-	515,6	555,2	581,8
710	-	-	625,8	655,6
800	-	-	705,2	738,8
900	-	-	793,4	831,2
1000	-	-	881,4	923,6
1200	-	-	-	1108,2
1400	-	-	-	1293,0
1600	-	-	-	1477,6
L = 350 mm				

NOTES





ENCAPSULATION COUPLING IN TWO PIECES FOR PIPE REPAIR AND HOT TAPPING WITHOUT FLOW INTERRUPTION

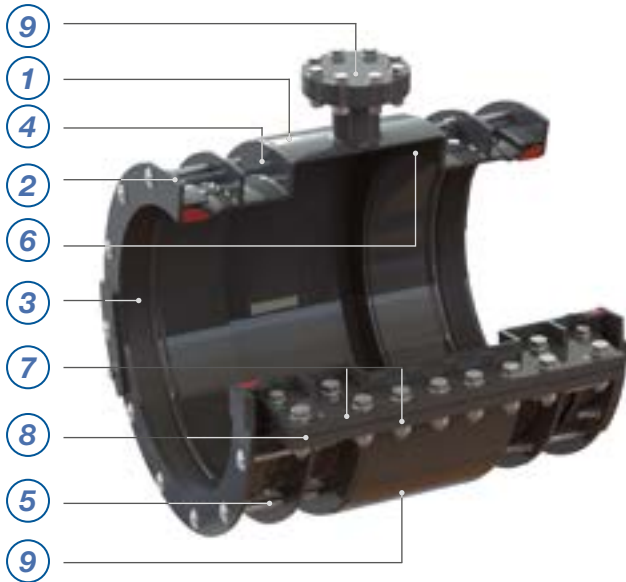


VERSIONS	D30 / D10 / D20-D	
	STANDARD	OPTIONS
NOMINAL SIZES DN	300 - 2000 and bigger	Hot tapping version
PN	From PN 10 to PN 25 and higher ratings	
MEDIUM	Potable and raw water	Sea water
BODY	Carbon steel	
COMPRESSION RINGS	Carbon steel	
SEALING GASKETS	EPDM rubber	NBR, NEOPRENE
COMPRESSION BOLTS	Steel with dacromet coating	Grade 304 / 316 stainless steel
COATING	Rilsan Nylon 11	
RANGE Ød	30 mm	
ANGULAR DEFLECTION	From DN300 to DN1000 = +/-3° on each side with coupling ends*	
ANGULAR DEFLECTION	From DN1000 to DN2000 = +/-2° on each side with coupling ends*	

*average datum in the middle of the range

DESIGN FEATURES

OF DUOFIT COUPLING IN TWO PIECES FOR PIPE REPAIR AND HOT-TAPPING



1 Central body

Carbon steel central body conveniently built in order to allow a perfect insertion of the gasket inside its dedicated conical seat.

2 Compression ring

Carbon steel compression followers which allow compression of the gasket onto the pipe surface upon tightening the bolts.

3 Gasket

Truncated-cone sealing gasket which can be perfectly inserted between the central body of the coupling and the circumference of the pipe. It allows a complete hydraulic seal and a 30mm tolerance range on the pipe OD.

4 Bolt holes

Round or square holes for the bolt installation.

5 Compression bolts

The compression bolts allow the approaching of the compression flanges and the consequent compression of the gasket onto the pipe.

6 Shaping

Manufactured in carbon steel, designed according to the length and the diameter of the pipe or of the sleeve to be repaired, in order to perfectly cover them.

7 Lateral plates

Manufactured in carbon steel, they allow the union of the two longitudinal shells of the DUOFIT allowing the repairing of the leak.

8 Lateral gasket

Lateral gasket with square section, it is compressed between the lateral plates and allows the hydraulic seal along the entire length of the Duofit.

9 Upper and lower outlets

They allow the DUOFIT assembly decreasing the pressure during the installation. They are also used in order to test the DUOFIT tightness once the installation is completed.

10 Straight version

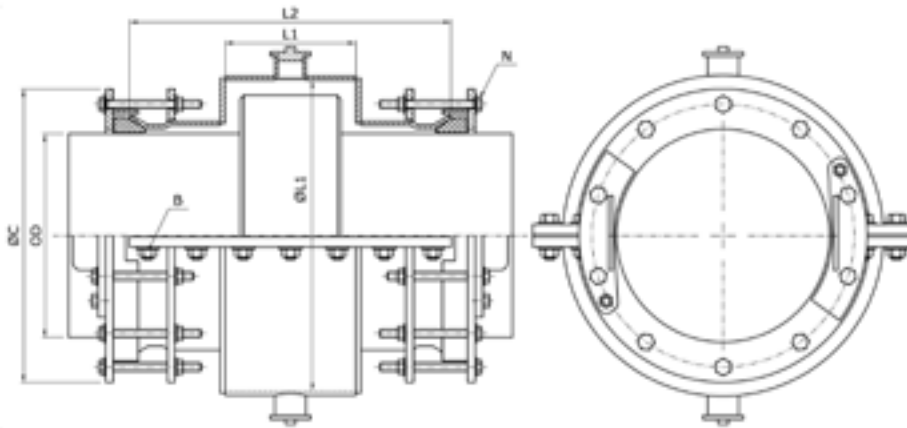
Straight version for repairing pipeline straight sections.

11 Separate followers version

The bolts tightening is independent in order to improve the coupling centering and the performances of the gasket.

DUOFIT D30

SHAPED VERSION



Duofit **D30** shaped version for repair sleeve collars of asbestos cement pipes, DCI pipes sockets, on a "GIBAULT" type joints, PE electrowelded fittings without interruption of supply.

Duofit D30 version can be also used for hot tapping techniques on pipes of any material and diameter with running fluids.

D30 for cast iron pipes

Other sizes or ranges on request

DN	ØD		MOP (PN)	Shaping Length L1	Shaping ID ØL1	Total Length L2	Max. External Dimension ØC	No. Flange Bolts N	No. Lateral Plates Bolts B	Weight		
	Min.	Max.										
350	360	390	6-10-16	260	500	752	553	16	22	215		
400	415	445	6-10-16		560		608	20		232		
450	465	495	6-10-16		600		658	24		246		
500	515	545	6-10-16		670		708	24		266		
600	615	645	6-10-16		780		808	28		300		
700	720	750	6-10-16		890		913	32		343		
800	825	855	6-10-16		1000		1018	36		379		
900	930	960	6-10-16	1110	1123	40	410					
1000	1030	1060	6-10-16	300	1220	792	1223	44	26	451		
1100	1135	1165	6-10-16		1320		1328	48		483		
1200	1240	1270	6-10-16		1430		1433	52		519		
1400	1445	1475	6-10-16		1680		1638	60		610		
1600	1650	1680	6-10-16		1890		1843	68		700		
1800	1860	1890	6-10-16		350		1940	842		2053	76	801
2000	2065	2095	6-10-16				2140			2258	84	891

D30 for asbestos cement pipe 10

300	330	360	6-10-16	260	460	752	523	16	22	202
350	385	415	6-10-16		520		578	20		221
400	440	470	6-10-16		600		633	24		245
450	495	525	6-10-16		660		688	24		263
500	555	585	6-10-16		730		748	28		286
600	665	695	6-10-16	300	850	792	858	32	26	332
700	780	810	6-10-16		990		973	32		376
800	890	920	6-10-16		1120		1083	36		420
900	1005	1035	6-10-16		1240		1198	44		463
1000	1120	1150	6-10-16		1360		1313	48		503

D30 for SDR 17 PE pipes on electrowelded body

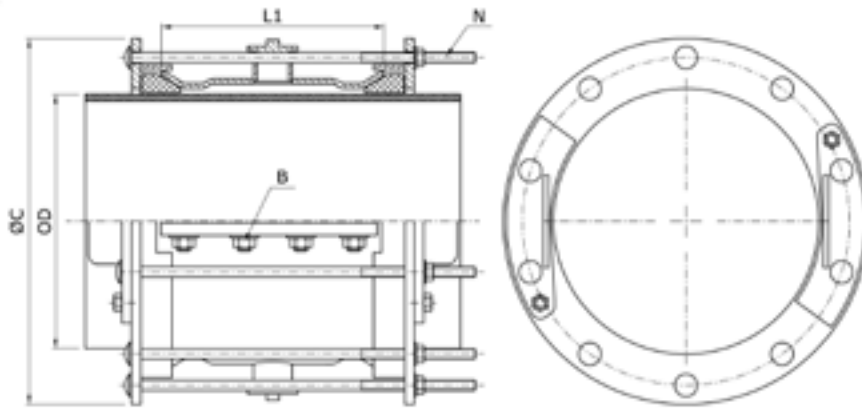
355	340	370	6-10-16	350	460	842	533	20	26	219
400	385	415	6-10-16	400	520	892	578	20	30	244
450	435	465	6-10-16	440	560	932	628	24		266
500	485	515	6-10-16	460	620	952	678	24		288
560	545	575	6-10-16	500	680	992	738	28	32	316
630	615	645	6-10-16	550	770	1042	808	28		356
710	695	725	6-10-16		870		888	32	34	392
800	785	815	6-10-16		970		978	32	36	426
900	885	915	6-10-16		570		1080	1062	1078	36
1000	985	1015	6-10-16	1190		1178	40		40	513
1100	1085	1115	6-10-16	600		1290	1092		1278	44
1200	1185	1215	6-10-16	620	1410	1112	1378	48	48	612

This chart is for indicative purposes. Nova Siria srl can vary the indicated standards (tolerance range, dimensions and materials) according to specifications requested by Customers or to designing needs.

DUOFIT D10

SINGLE BOLT STRAIGHT VERSION

Straight version Duofit **D10** for repairs on damaged pipes (cracks, faulty weldings, corrosion, etc.) with no service cut off on pipes of any diameter. It can be also used for hot tapping techniques on pipes of any material and diameter with running fluids.



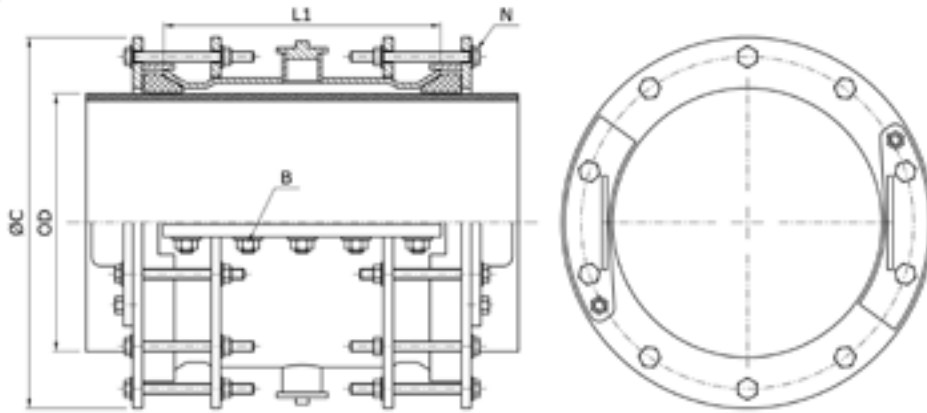
Other sizes or ranges on request

DN	Ø D		MOP (PN)	L1	Max. External Dimension Ø C	No. Flange Bolts N	No. Lateral Plates Bolts B	Weight
	Min.	Max.						
300	320	350	6-10-16	355	500	8	10	99
	350	370	6-10-16		520			
350	360	390	6-10-16		540	10		105
	390	420	6-10-16		580			
400	410	440	6-10-16		600	12		108
	435	465	6-10-16		620			
450	460	490	6-10-16		640	14		113
	490	520	6-10-16		680			
500	510	540	6-10-16		700	16		116
	535	565	6-10-16		720			
550	560	590	6-10-16		740	18		123
	590	620	6-10-16		783			
600	620	650	6-10-16		813	20		127
	645	675	6-10-16		838			
650	670	700	6-10-16		863	22		132
	695	725	6-10-16		888			
700	720	750	6-10-16		913	24		135
	750	780	6-10-16		943			
750	780	810	6-10-16		973	26		136
	835	865	6-10-16		1028			
800	860	890	6-10-16		1053	28		142
	895	925	6-10-16		1088			
850	925	955	6-10-16		1118	30		146
	955	985	6-10-16		1148			
900	985	1015	6-10-16		1178	32		151
	1000	1030	6-10-16		1193			
950	1030	1060	6-10-16		1223	34		155
	1060	1090	6-10-16		1253			
1000	1080	1110	6-10-16		1273	36		159
	1100	1130	6-10-16		1293			
1050	1130	1160	6-10-16		1323	38		164
	1160	1190	6-10-16		1353			
1100	1185	1215	6-10-16		1378	40		168
	1205	1235	6-10-16		1398			
1150	1235	1265	6-10-16		1428	42		171
	1300	1330	6-10-16		1493			
1200	1335	1365	6-10-16		1528	44		175
	1385	1415	6-10-16		1578			
1250	1410	1440	6-10-16		1603	46		179
	1440	1470	6-10-16		1633			
1300	1510	1540	6-10-16		1703	48		184
	1585	1615	6-10-16		1778			
1350	1610	1640	6-10-16		1803	50		189
	1650	1680	6-10-16		1843			
1400	1825	1855	6-10-16		2018	52		194
	1860	1890	6-10-16		2053			
1450	2020	2050	6-10-16		2213	54		199
	2065	2095	6-10-16		2258			

This chart is for indicative purposes. Nova Siria srl can vary the indicated standards (tolerance range, dimensions and materials) according to specifications requested by Customers or to designing needs.

DUOFIT D20-D

DOUBLE BOLT STRAIGHT VERSION



Straight version Duofit **D20** for repairs on damaged pipes (cracks, faulty weldings, corrosion, etc.) with no service interruption on pipes of any diameter. Can also be used for hot tapping techniques on pipes of any material and diameter with running fluids.

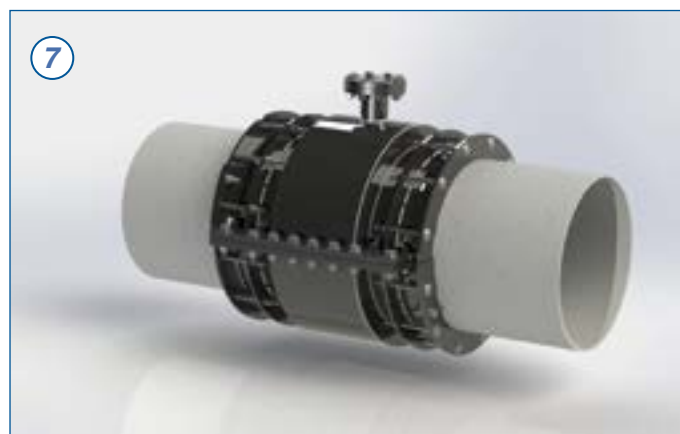
Other sizes or ranges on request

DN	Ø D		MOP (PN)	L1	Max. External Dimension Ø C	No. Flange Bolts N	No. Lateral Plates Bolts B	Weight
	Min.	Max.						
300	320	350	6-10-16	435	513	16	12	118
	350	370	6-10-16		533	20		125
350	360	390	6-10-16		553			24
	400	420	6-10-16		583	28		
400	410	440	6-10-16		603			32
	450	465	6-10-16		628	36		
450	460	490	6-10-16		653			40
	500	520	6-10-16		683	44		
500	510	540	6-10-16		703			48
	535	565	6-10-16		728	52		
535	560	590	6-10-16		753			56
	590	620	6-10-16		783	60		
600	620	650	6-10-16		813			64
	645	675	6-10-16		838	68		
645	670	700	6-10-16		863			72
	700	725	6-10-16		888	76		
700	720	750	6-10-16		913			80
	750	780	6-10-16		943	84		
750	780	810	6-10-16		973			88
	800	835	6-10-16		1028	92		
800	860	890	6-10-16		1053			96
	895	925	6-10-16		1088	100		
895	925	955	6-10-16		1118			104
	955	985	6-10-16		1148	108		
955	985	1015	6-10-16	1178	112		273	
	1000	1030	6-10-16	1193		116	279	
1000	1030	1060	6-10-16	1223	120		285	
	1060	1090	6-10-16	1253		124	291	
1060	1080	1110	6-10-16	1273	128		297	
	1100	1130	6-10-16	1293		132	301	
1100	1130	1160	6-10-16	1323	136		308	
	1160	1190	6-10-16	1353		140	314	
1160	1185	1215	6-10-16	1378	144		320	
	1200	1205	6-10-16	1398		148	325	
1200	1235	1265	6-10-16	1428	152		333	
	1300	1300	6-10-16	1493		156	339	
1300	1335	1365	6-10-16	1528	160		359	
	1385	1415	6-10-16	1578		164	366	
1385	1410	1440	6-10-16	1603	168		376	
	1440	1470	6-10-16	1633		172	384	
1440	1510	1540	6-10-16	1703	176		390	
	1585	1615	6-10-16	1778		180	407	
1585	1610	1640	6-10-16	1803	184		422	
	1650	1680	6-10-16	1843		188	431	
1650	1825	1855	6-10-16	2018	192		439	
	1860	1890	6-10-16	2053		196	488	
1860	2020	2050	6-10-16	2213	200		495	
	2065	2095	6-10-16	2258		92	536	
2065					96	545		

This chart is for indicative purposes. Nova Siria srl can vary the indicated standards (tolerance range, dimensions and materials) according to specifications requested by Customers or to designing needs.

DUOFIT

ASSEMBLING STEPS



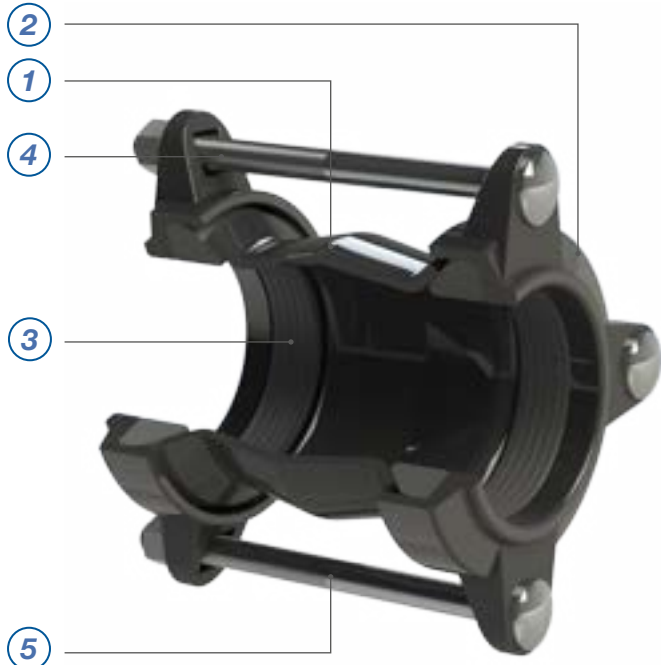
WIDE RANGE COUPLINGS AND FLANGE ADAPTORS



VERSIONS	SME / SMFE	
	STANDARD	OPTIONS
NOMINAL SIZES	50 - 300	
PN	From PN 6 to PN 16	
MEDIUM	Potable and raw water	
BODY	Ductile iron	
COMPRESSION RINGS	Ductile iron	
SEALING GASKETS	EPDM rubber	
BOLTS	Steel with dacromet coating	Grade 304/316 stainless steel
COATING	Rilsan Nylon 11	
ANGULAR DEFLECTION	From DN50 to DN300 = +/-4° on each side with coupling ends*	

*average datum in the middle of the range

DESIGN FEATURES OF SMART JOINT COUPLINGS AND FLANGE ADAPTORS



1 Central body

Ductile iron central body conveniently built in order to allow a perfect insertion of the gasket inside its dedicated conical seat.

2 Compression ring

Ductile iron compression followers which allow compression of the gasket onto the pipe surface upon tightening the bolts.

3 Gasket

Truncated-cone sealing gasket which can be perfectly inserted between the central body of the coupling and the circumference of the pipe. It allows a complete hydraulic seal and up to 26 mm tolerance range on the pipe OD.

4 Bolt holes

Round or square holes for the bolt insertion.

5 Compression bolts

The compression bolts allow the approaching of the compression flanges and the consequent compression of the gasket onto the pipe.

6 Connection flange (Flanged version)

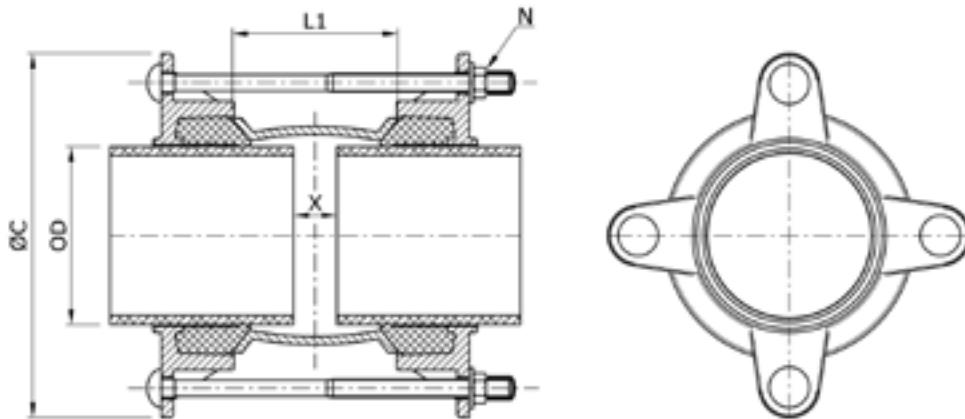
Ductile iron flange.



The SMART series couplings represent the standard version of Nova Siria product range and provide a perfect and fast connection between pipes of any material with same or different outside diameters up to 327 mm. Versions: straight version, flanged version with multiple flange drillings and end restraint version (Pipe Locking System).

SMART JOINT

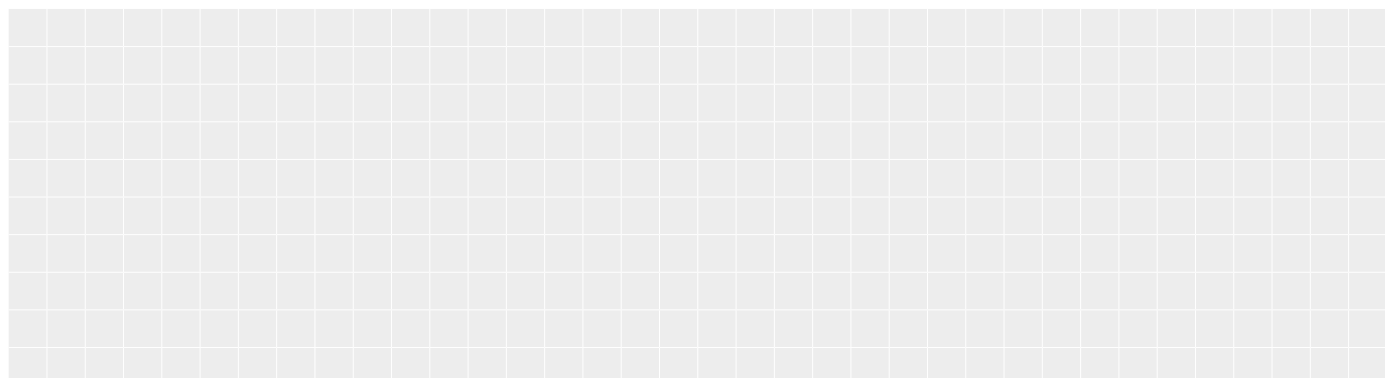
SMART SERIES STRAIGHT COUPLINGS



DN	ØD		L1	ØC	Bolts Quantity	Gap X		Weight
	Min.	Max.				Max	Min.	
50	58	74	102	170	4	40	12	3.0
65	68	84		183				3.6
80	84	105		210				5.0
100	99	119		223				5.4
	109	133		244				6.0
125	133	157	268	6.7				
150	157	182	118	296		9.5		
	177	201		314		9.8		
200	194	215		140		322		10.3
	218	242	354			13.5		
225	242	268	403		16.3			
250	266	291	162		405	17.4		
	280	305		424	19.0			
300	302	327		443	20.0			

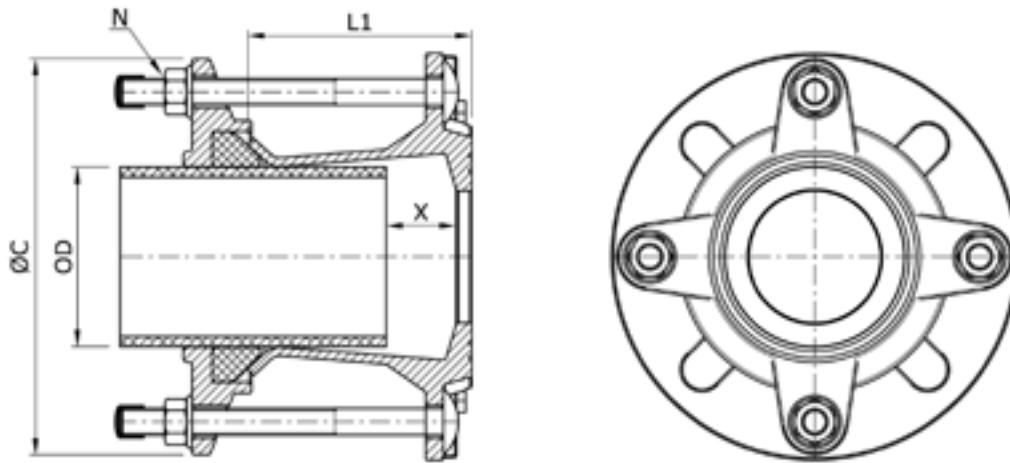
The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range

NOTES



SMART JOINT

SMART SERIES FLANGE ADAPTORS



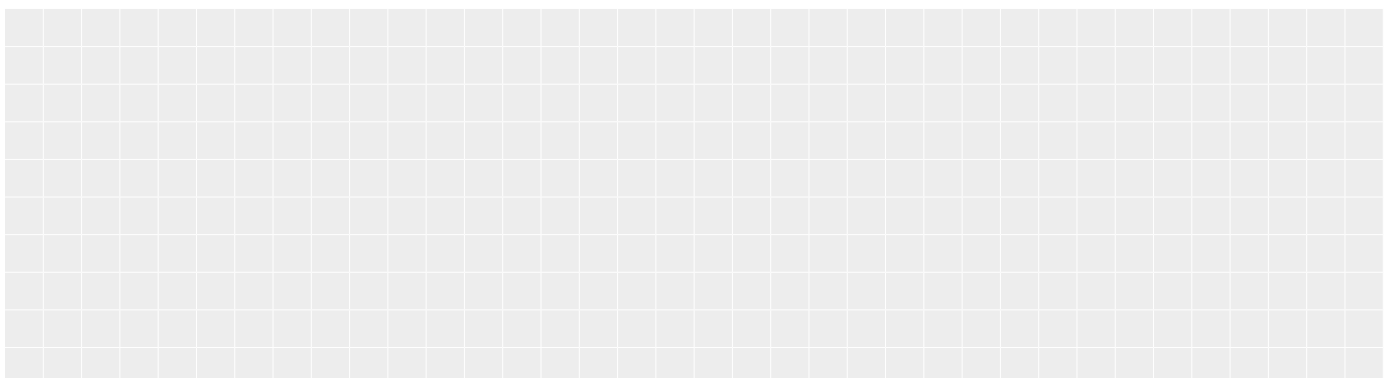
DN	ØD		L1	ØC	Bolts Quantity	Gap X		Type Of Flange	Weight	
	Min.	Max.				Max	Min.			
50	58	74	170	170	4	70	40	a,b,c,d	3,9	
50/65	68	84		183				a,b,c,d	4,5	
80	84	105		210				a,b,c,d	5,2	
100	99	118		223				a,b,c,d	5,9	
	109	133	244	a,b,c,d	6,5					
125/150	133	157	190	268	6	80	35	a,b,c,d	8,4	
150	157	182		296				a,b,d	10	
200	194	215		322			20	a,b,d	12	
	218	242		354				35	a,b	14,4
250	242	268		403			35		a,b	17,4
	266	291		405					a,b	17,8
	280	305	424	a,b	21					
300	302	327	443	a,b,d	23,7					

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range

FOR FLANGED VERSION

- a. EN1092 PN10, PN16
- b. ANSI B16. CL125
- c. BS 10 TABLE D
- d. BS 10 TABLE E

NOTES



SMART JOINT

WIDE RANGE COUPLINGS AND FLANGE ADAPTORS WITH END RESTRAINT SYSTEM



VERSIONS	SMPL / SMFPLE	
	STANDARD	OPTIONS
NOMINAL SIZES	50 - 300	
PN	From PN 6 to PN 16	
MEDIUM	Potable and raw water	
BODY	Ductile iron	
COMPRESSION RINGS	Ductile iron	
SEALING GASKETS	EPDM rubber	
BOLTS	Steel with dacromet coating	Grade 304/316 stainless steel
END RESTRAINT GRIPPERS	Tempered steel with dacromet coating	
COATING	Rilsan Nylon 11	
ANGULAR DEFLECTION	From DN50 to DN300 = +/-4° on each side with coupling ends*	

*average datum in the middle of the range, before tightening the end restraint system

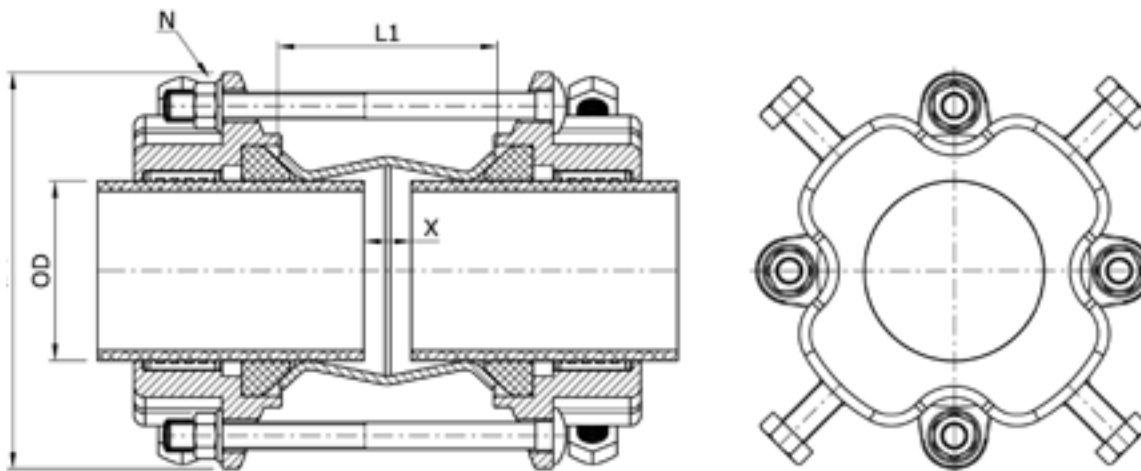
DESIGN FEATURES OF SMART JOINT COUPLINGS AND FLANGE ADAPTORS WITH END RESTRAINT SYSTEM



- 1 Central body**
 Ductile iron central body conveniently built in order to allow a perfect insertion of the gasket inside its dedicated conical seat.
- 2 Compression ring**
 Ductile iron compression rings which allow compression of the gasket onto the pipe surface upon tightening the bolts.
- 3 Gasket**
 Truncated-cone sealing gasket which can be perfectly inserted between the central body of the coupling and the circumference of the pipe. It allows a complete hydraulic seal and up to 26 mm tolerance range on the pipe OD.
- 4 Bolt holes**
 Round or square holes for the bolt insertion.
- 5 Compression bolts**
 The compression bolts allow the approaching of the compression flanges and the consequent compression of the gasket onto the pipe.
- 6 Radial set of pull-out resistance grippers**
 Manufactured in C40 tempered steel, they allow the total locking of the pipe. End restraint grippers, which can be used on PE, steel, DCI and PVC pipelines, guarantee a pull-out resistance action during the installation and their special design allows an easy assembly and disassembly of the coupling without damaging the Rilsan coating.
- 7 End restraint containing ring**
 Manufactured in ductile iron, it optimizes the pull-out resistance action, also avoiding the rotation of the grippers during the tightening phase.
- 8 Connection flange (Flanged version)**
 Ductile iron flange.

SMART JOINT

SMART SERIES STRAIGHT COUPLINGS WITH END RESTRAINT SYSTEM



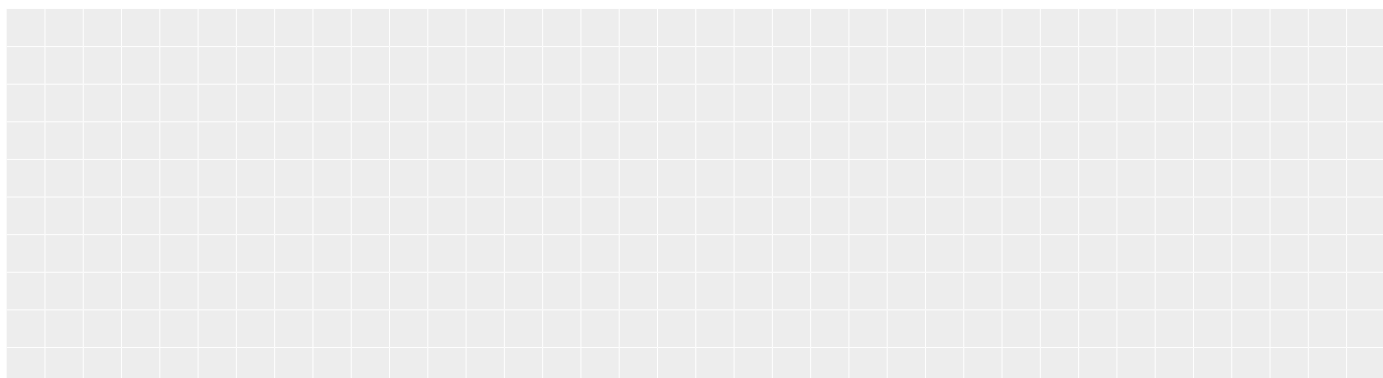
DN	ØD		L1	ØC	Bolts Quantity	Gap X		Weight	
	Min.	Max.				Max	Min.		
50	58	74	102	170	4	40	12	8,04	
65	68	84		183				8,82	
80	84	105		210				11,1	
100	99	119		223				12,3	
	109	133		244				12,62	
125	133	157	268	14					
150	157	182	118	296		50		17,74	
	177	201		314				17,92	
200	194	215	140	322				6	17,7
	218	242		354					21,34
225	242	268	403	27,88					
250	266	291	162	405	60	39,86			
	280	305		424		40,96			
300	302	327	443	44,5					

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range

NOVA SIRIA end restraint fittings are suitable for the following pipes: steel, CI/DI, PE, pressure PVC.

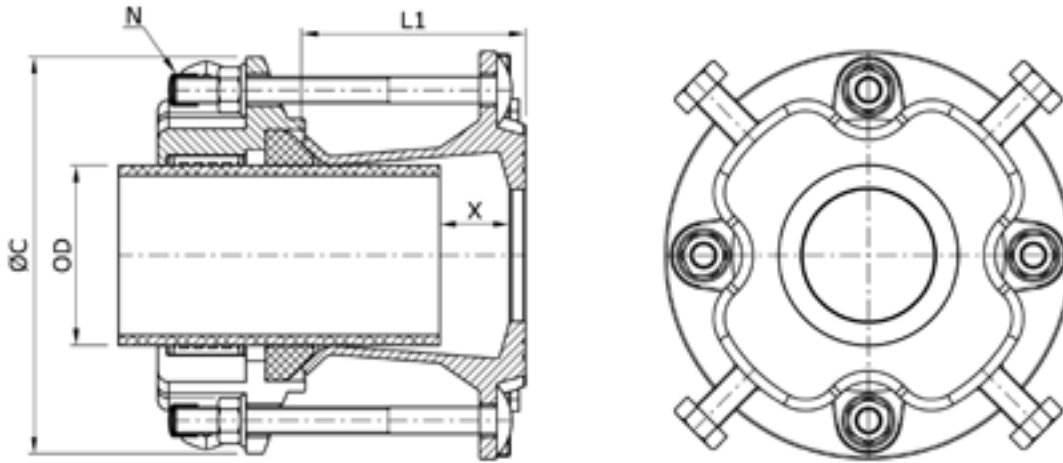
All end restraint fittings installed on PE or pressure PVC pipes must be integrated with an internal reinforcing liner provided or approved by NOVA SIRIA.

NOTES



SMART JOINT

SMART SERIES FLANGE ADAPTORS WITH END RESTRAINT SYSTEM



DN	ØD		L1	ØC	Bolts Quantity	Gap X		Type Of Flange	Weight
	Min.	Max.				Max	Min.		
50	58	74	170	170	4	70	40	a,b,c,d	6,22
50/65	68	84		183				a,b,c,d	7,2
80	84	105		210				a,b,c,d	8,26
100	99	118		223				a,b,c,d	8,96
	109	133	244	a,b,c,d	10,32				
125/150	133	157	190	268	6	80	35	a,b,c,d	13,46
150	157	182		296				a,b,d	13,72
200	194	215		322				a,b,d	16,88
	218	242		354		a,b	18,48		
250	242	268		403		a,b	23,92		
	266	291		405		a,b	30,18		
300	280	305	424	a,b	33,5				
	302	327	443	a,b,d	35,34				

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range

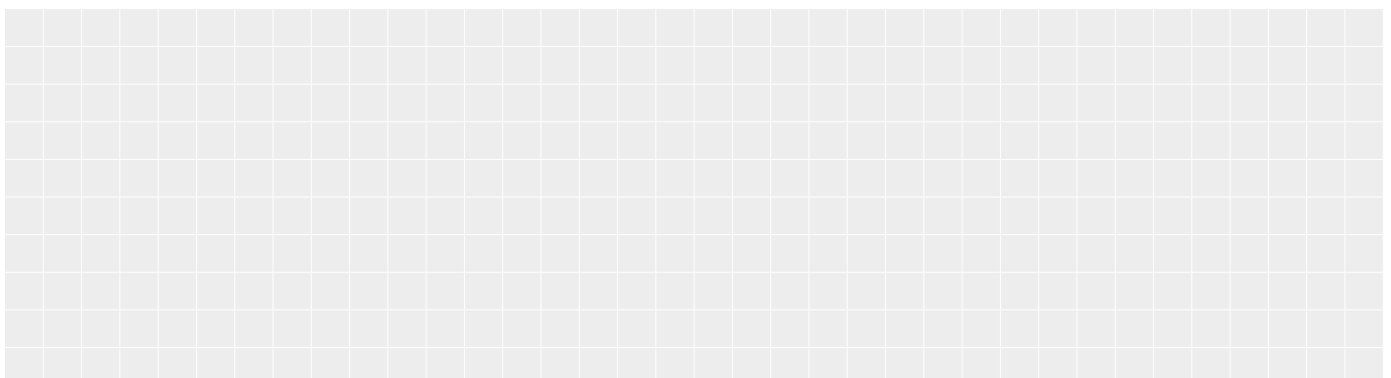
NOVA SIRIA end restraint fittings are suitable for the following pipes: steel, ci/DI, PE, pressure PVC.

All end restraint fittings installed on pe Or pressure PVC Pipes must be integrated with an internal reinforcing liner provided or approved by noVA SIRIA.

FOR FLANGED VERSION

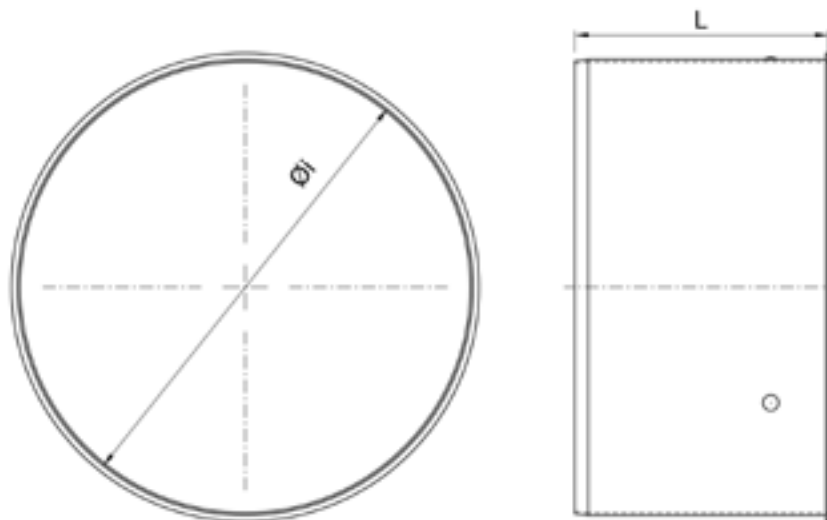
- a. EN1092 PN10, PN16
- b. ANSI B16. CL125
- c. BS 10 TABLE D
- d. BS 10 TABLE E

NOTES



SMART JOINT LINERS

INSERT



Always use the **NOVA SIRIA** reinforcing liner inside the pipe when installing an end restraint coupling on PE and pressure PVC pipes. Liners are manufactured in stainless steel.

The liners reinforce the section of the pipe intended for the **SMPL/SMFPL** improving the overall performance of the end restraint system.



Ø PE pipe	SDR 11		SDR 17	
	Øi	L	Øi	L
63	51,4	175	55,4	175
75	61,4		66,0	
90	73,6		79,2	
110	90,0		96,8	
125	102,2		110,2	
140	114,6		123,4	
160	130,8	200	141,0	200
180	147,2		158,6	
200	163,6		176,2	
225	184,0	225	197,4	225
250	204,6		221,2	
280	229,2		246,8	
315	257,8		277,6	

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range

NOTES



SPECIAL PRODUCTS

STEPPED COUPLINGS

For connections between OD > 288mm pipes of different materials and whenever the diameter difference is bigger than the standard tolerance.

Up to DN 2000 PN 25. Bigger sizes and higher pressure ratings are available upon request.



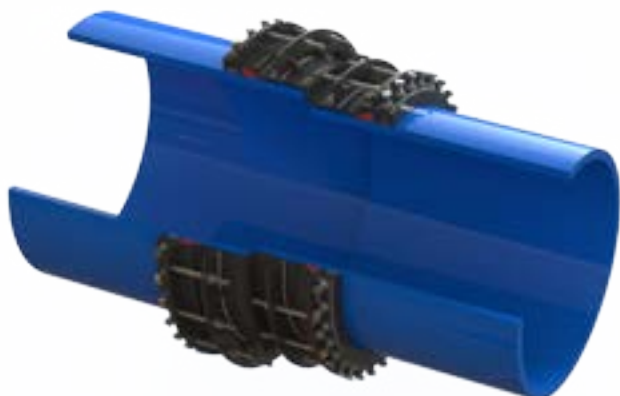
STEPPED LARGESIZE

For pipe OD differences up to 39 mm



STEPPED LARGESIZE

For pipe OD differences bigger than 40 mm



STEPPED MULTIGRIP

Stepped version, for connection of pipes in PE, PVC, steel and cast iron, whenever the diameter difference is bigger than the standard tolerance. End restraint fittings, used whenever the axial thrust of pressure has to be compensated.

Up to DN 2000 and bigger. PN 6 - PN 25.

SPECIAL PRODUCTS



STEPPED COUPLINGS

For connections between O.D. > 288mm pipes of different materials and whenever the diameter difference is bigger than the standard tolerance.



END RESTRAINT BEND WITH ADAPTABLE SOCKETS

Steel elbow with adaptable sockets; it is possible to adapt the elbow (of the angle required) with smooth calibrated end for jointing of bell pipes or flanged pipes (with any flange drilling).



NOVAGRIP

NOVAGRIP is an innovative connection technology between rehabilitating polyethylene liner ends. When the existing pipeline rehabilitation is realized with a thin-walled plastic pipe, a combination of a reinforcing liner ring and a NOVAGRIP style set of grippers provide the best way to connect the rehabilitated pipeline and other equipment or between sections of rehabilitated pipeline. A tailor-made set of grippers ensure that the rehabilitating liner is restraint, in order to avoid its movement inside the main pipe. A double gasket – one on the liner and one on the host pipe – ensure the total water-tightness both inside and outside, thus preventing any fluid getting in between the host pipe and its plastic liner.



TEE WITH ADAPTABLE SOCKETS AND FLANGE TAPPING

A steel tee with adaptable sockets; the tee with smooth calibrated ends can be used to join sockets or flanged ends or flanged pipes (with any flange drilling).

SPECIAL PRODUCTS

HOT TAPPING COLLARS



90° FLANGED COLLAR

Flanged two-part hot tapping collar for pressure pipes of any material (PE, PVC, cast iron, steel); the collar can be manufactured for any flange drilling.



45° FLANGED COLLAR

Flanged two-part hot tapping collar for pressure pipes of any material (PE, PVC, cast iron, steel); the collar can be manufactured for any flange drilling.



COLLAR WITH COUPLING BRANCH

It is a hot tapping collar in two sections with the branch having 30 mm range for the connection of pressure pipes of any material (PE, PVC, ductile iron, steel), with pipe OD within the tolerance range.



90° THREADED COLLAR

Threaded two-part hot tapping collar for pressure pipes of any type of material (PE, PVC, cast iron, steel); the collar can be manufactured for any type of thread.

TECHNICAL CHARACTERISTICS

- Material: carbon steel;
- RILSAN NYLON 11 anti-corrosion coating;
- Pressure 10 - 16 bar; other pressures on request;
- Zinc coated bolts, alternatively A2-AISI 304 stainless steel;
- NBR or EPDM gaskets;

SPECIAL PRODUCTS



JOLLY JOINT

The JOLLY JOINT meets the need to combine several functions in a single joint:

- dismantling joint
- linear compensation joint



WIDEFLEX

WIDEFLEX is a simple, easy to install angular compensation joint that can be used in a wide range of applications on pressure pipes or gravity flow installations whenever it is necessary to compensate settlements of the ground or of the pipeline.



ANTI-LEAK CLAMP

It provides the repairing of live pipelines without shutting down the service on:

- asbestos cement pipe sockets
- cast or ductile iron sockets or couplings
- PVC, GRP and steel pipe sockets



END RESTRAINT CLAMP

The mechanical locking system "Pipe locking system", which consists of radial grippers "Pipe locking system" allows to eliminate the axial movement at the sealing gasket points of the pipe on:

- socket or coupling of cast/ductile iron pipes
- socket of steel pipes

CASE STUDIES

DUOFIT

Country: Italy

Plant: main aqueduct

Coupling: Duofit ND 2500

Repairing a leaking clamp installed on a steel clamp



MULTIGRIP

Country: United Kingdom

Plant: drinking water hdpe pipeline

Coupling: Multigrip flange adaptors

Connection of HDPE pipe with flanged valve

CASE STUDIES



WIDE RANGE COUPLINGS

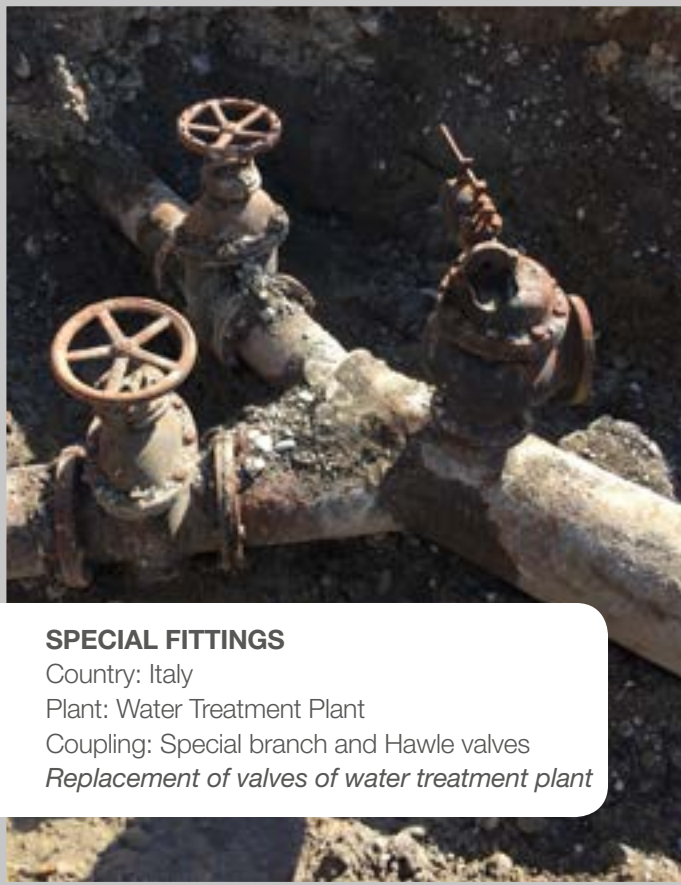
Country: Turkey
 Plant: Marine pipeline
 Coupling: wide range coupling Widesize
Connecting GRP pipes



NOVAGRIP

Country: United Kingdom
 Plant: aqueduct
 Coupling: relining fitting - Novagrip
Waterworks rehabilitation

CASE STUDIES



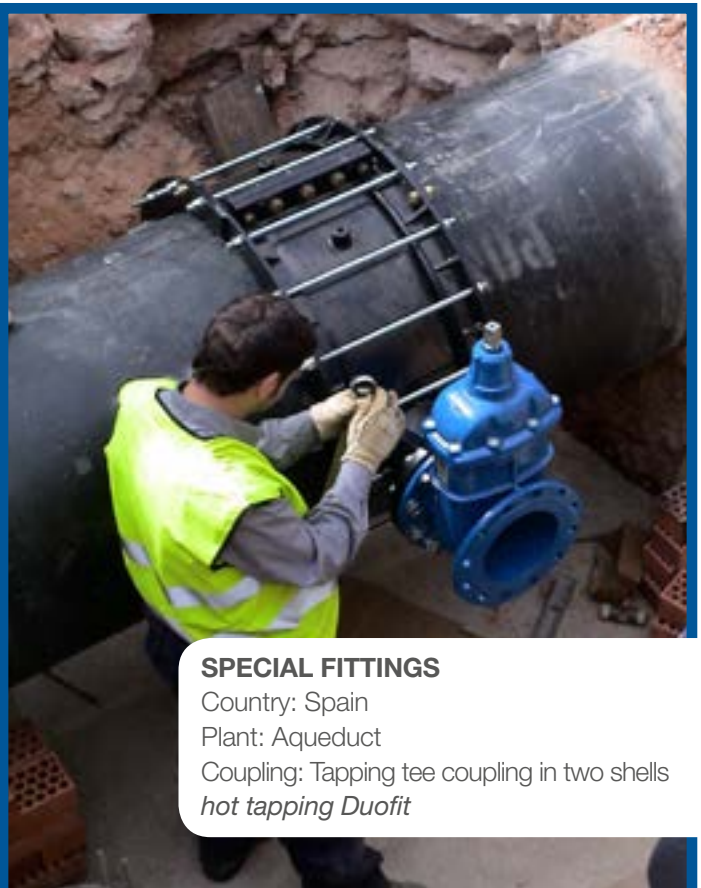
SPECIAL FITTINGS

Country: Italy

Plant: Water Treatment Plant

Coupling: Special branch and Hawle valves

Replacement of valves of water treatment plant



SPECIAL FITTINGS

Country: Spain

Plant: Aqueduct

Coupling: Tapping tee coupling in two shells

hot tapping Duofit



www.novasiria.it



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