



CUSTOMIZED JOINTING, REPAIRING AND HOT-TAPPING SYSTEMS

for large diameter pipelines



HAWLE. **MADE FOR GENERATIONS.**

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



MULTIGRIP FLANGE ADAPTOR PN 10 - PN 16



LARGESIZE SINGLE BOLT COUPLING PN 16



MULTISIZE COUPLING PN 16



LARGESIZE DOUBLE BOLT COUPLING PN 16



MULTISIZE FLANGE ADAPTOR PN 10 - PN 16



LARGESIZE FLANGE ADAPTOR PN 10 - PN 16

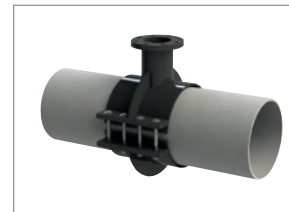
SPECIAL PRODUCTS



BENDS

Special steel fitting realized with any angle on request.

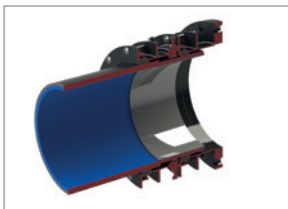
*Up to DN 2000, max. PN 25.
Bigger sizes are available upon request.*



HOT-TAPPING COLLARS

Two-part hot-tapping collars suitable for pressure pipes of any material.

*Up to DN 2000, PN 6 - PN 25.
Bigger sizes and higher pressure ratings are available upon request.*



NOVAGRIP

Innovative connection technology between rehabilitating polyethylene liner ends.

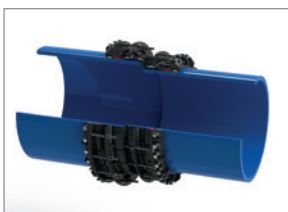
Up to DN 2000, max. PN 25.



STEPPED COUPLINGS

Couplings for the connection between pipes 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 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 restrained fittings, used whenever the axial thrust of pressure has to be compensated.

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

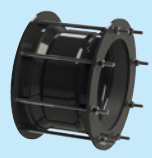


JOLLY JOINT

Provides in a unique solution a dismantling joint and a linear compensation joint.

*Up to DN 2000, PN 6 - PN 25.
Bigger sizes and higher pressure ratings are available upon request.*

INDEX

Page 4 - 5	SOLUTIONS PROVIDED BY HAWLE for large diameter pipelines ADVANTAGES OF NOVA SIRIA FITTINGS	Page 4 Page 5	
Page 6 - 11	WIDE RANGE STEEL FITTINGS	Page 6	
Page 12 - 15	MULTISIZE COUPLINGS AND FLANGE ADAPTORS	Page 12	
Page 16 - 19	MULTIGRIP LOW PRESSURE END RESTRAINT COUPLINGS AND FLANGE ADAPTORS (PN 6)	Page 16	
Page 20 - 24	MULTIGRIP END RESTRAINT STEEL FITTINGS PN 10 - PN 16	Page 20	
Page 25	LINERS	Page 25	
Page 26 - 31	DUOFIT COUPLING IN TWO PIECES	Page 26	



SOLUTIONS PROVIDED BY **HAWLE** FOR LARGE DIAMETER PIPELINES

Customized connections, maintenance products and fittings for various big pipe types are now available from Hawle. These connection solutions include a range of products extending from butterfly valves, gate valves, dismantling joints, non-return valves etc..

Furthermore, a range of customized products are designed for easy and safe pipeline repairs, eliminating the necessity of replacing the pipe.

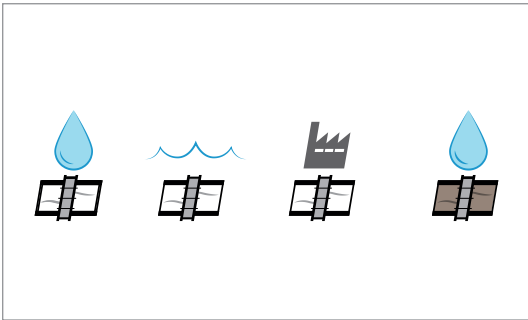


ADVANTAGES OF NOVA SIRIA FITTINGS



Advantages of our fittings

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



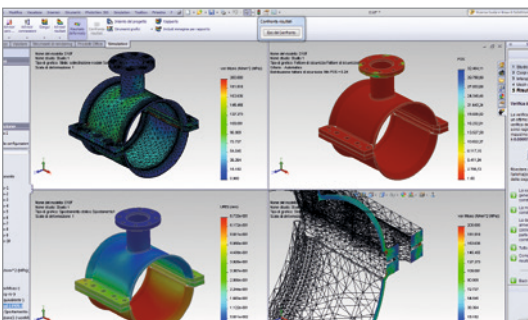
Applications

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



Tests

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



Designing 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” relative to materials resistance, external and internal stresses such as loads and pressures, through simulation of mechanical and hydraulic stresses in operating conditions.

WIDE RANGE STEEL FITTINGS



	STANDARD	OPTIONS
ORDER-NO.	NSLSN10	NSLSN10D / NSLSN40A / NSLSN40B
NOMINAL SIZES DN	300 - 2000 and bigger	
PRESSURE MOP (PN)	PN 10, 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
COATING	Rilsan nylon 11	
RANGE Ø d	30	50
FOR FLANGED VERSION	EN 1092	Flanges according to different standards on request
FLANGES	PN 10, PN 16 (higher pressures on request)	

DESIGN FEATURES OF WIDE RANGE STEEL FITTINGS



① Central body

Carbon steel central body conveniently built in order to allow a perfect movement 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 of tolerance range on 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 Connection flange (Flanged version)

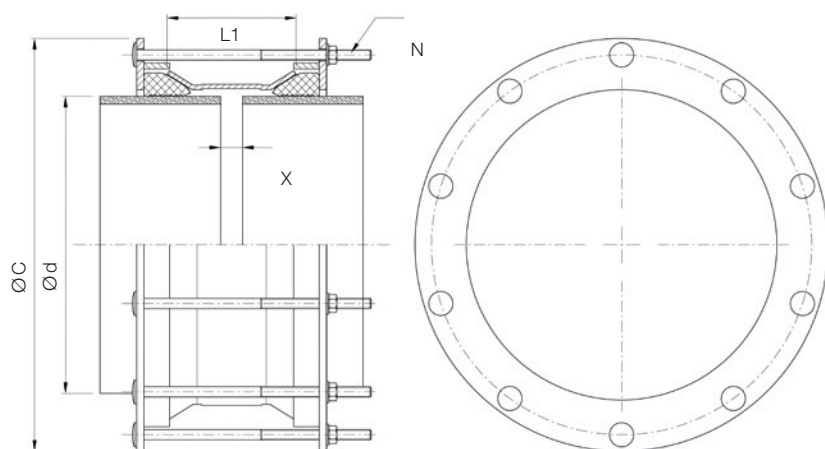
Carbon steel flange.

⑦ Separate bolt version

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

WIDE RANGE SINGLE BOLT COUPLING

No. NSLSN10



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

PN 16

Multisize series and wide range steel fittings provide the maximum hydraulic seal, however do not restrain axial pipes movement (for this type of products please refer to the MULTIGRIP section)

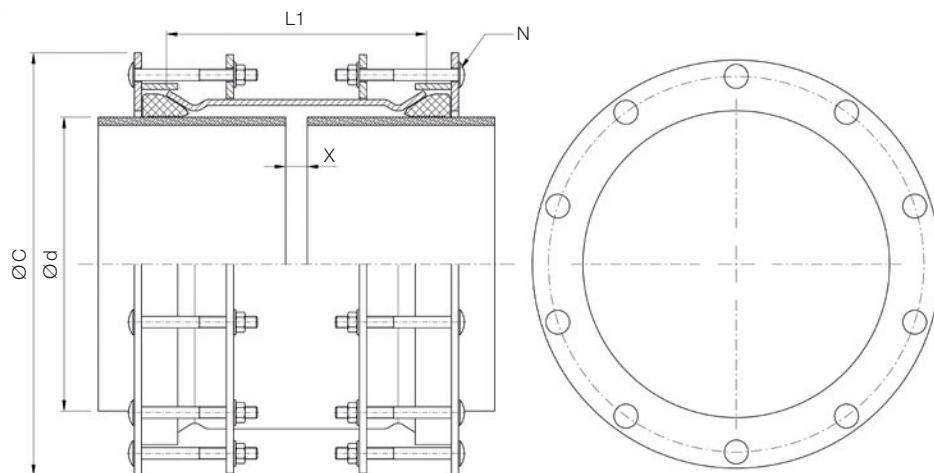
Other sizes or ranges on request



DN	MOP (PN)	Ø d		L1	Max. external dimension Ø C	Compression bolts	Gap X		Weight
		min.	max.			Quantity N	max.	min.	
300	16	320	350	175	500	8	50	20	37
350		340	370		520	10			39
		360	390		540				40
400		390	420		580				12
		410	440		600	45			
450		435	465		620	14			
		460	490		640				50
500		490	520		680				16
		510	540		700	54			
		535	565		720	57			
600		560	590		740	18			59
		590	620		763				61
		620	650		793				64
700		645	675		818	20			66
		670	700		843				69
		695	725		868				71
800		720	750		893	22			73
		750	780		923				76
		780	810		953				79
900		805	835		978	24			82
		835	865		1008				84
		860	890		1033				86
1000		895	925		1068	26			89
		925	955		1098				92
		955	985		1128				95
1100		985	1015		1158	28			97
		1000	1030		1173				99
		1030	1060		1203				102
1200		1060	1090		1233	30			104
		1080	1110		1253				106
		1100	1130		1273				108
1300		1130	1160		1303	32			111
		1160	1190		1333				113
		1185	1215		1358				116
1400		1205	1235		1378	34			118
		1235	1265		1408				120
		1300	1330		1473				127
1500		1335	1365		1508	40			130
		1385	1415		1558				134
		1410	1440		1583				137
1600		1440	1470		1613	42			139
		1510	1540		1683				188
		1585	1615		1758				196
1800		1610	1640		1783	46			199
		1650	1680		1823				203
		1825	1855		1998				217
2000		1860	1890		2033	48			221
		2020	2050		2193				239
		2065	2095		2238				214

WIDE RANGE DOUBLE BOLT COUPLING

No. NSLSN10D



PN 16

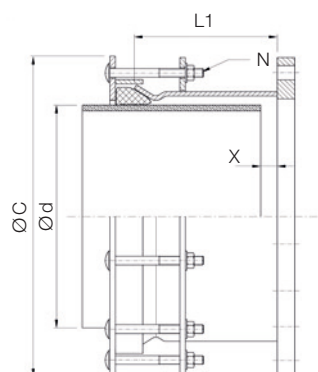
Multisize series and wide range steel fittings provide the maximum hydraulic seal, however do not restrain axial pipes movement (for this type of products please refer to the MULTIGRIP section)

Other sizes or ranges on request

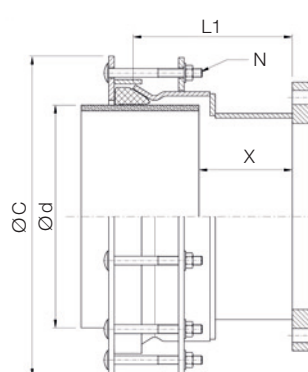
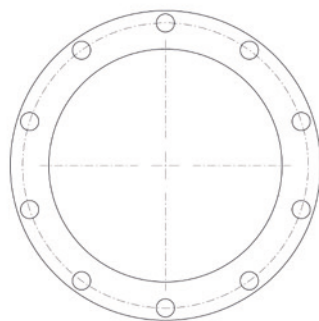
DN	MOP (PN)	Ø d		L1	Max. external dimension ØC	Compression bolts	Gap X		Weight
		min.	max.			Quantity N	max.	min.	
300	16	320	350	295	500	16	150	20	73
350		340	370		520	20			77
		360	390		540				81
400		390	420		580				24
		410	440		600	89			
450		435	465		620	28			
		460	490		640				99
500		490	520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

WIDE RANGE FLANGE ADAPTOR

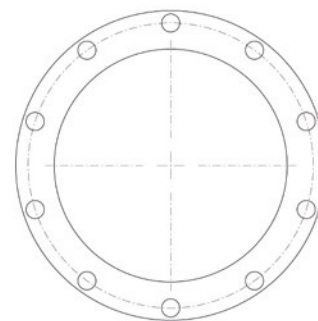
No. NSLSN40A / NSLSN40B



TYPE A



TYPE B



PN 10/16

Multisize series and wide range steel fittings provide the maximum hydraulic seal, however do not restrain axial pipes movement (for this type of products please refer to the MULTIGRIP section)

Other sizes or ranges on request

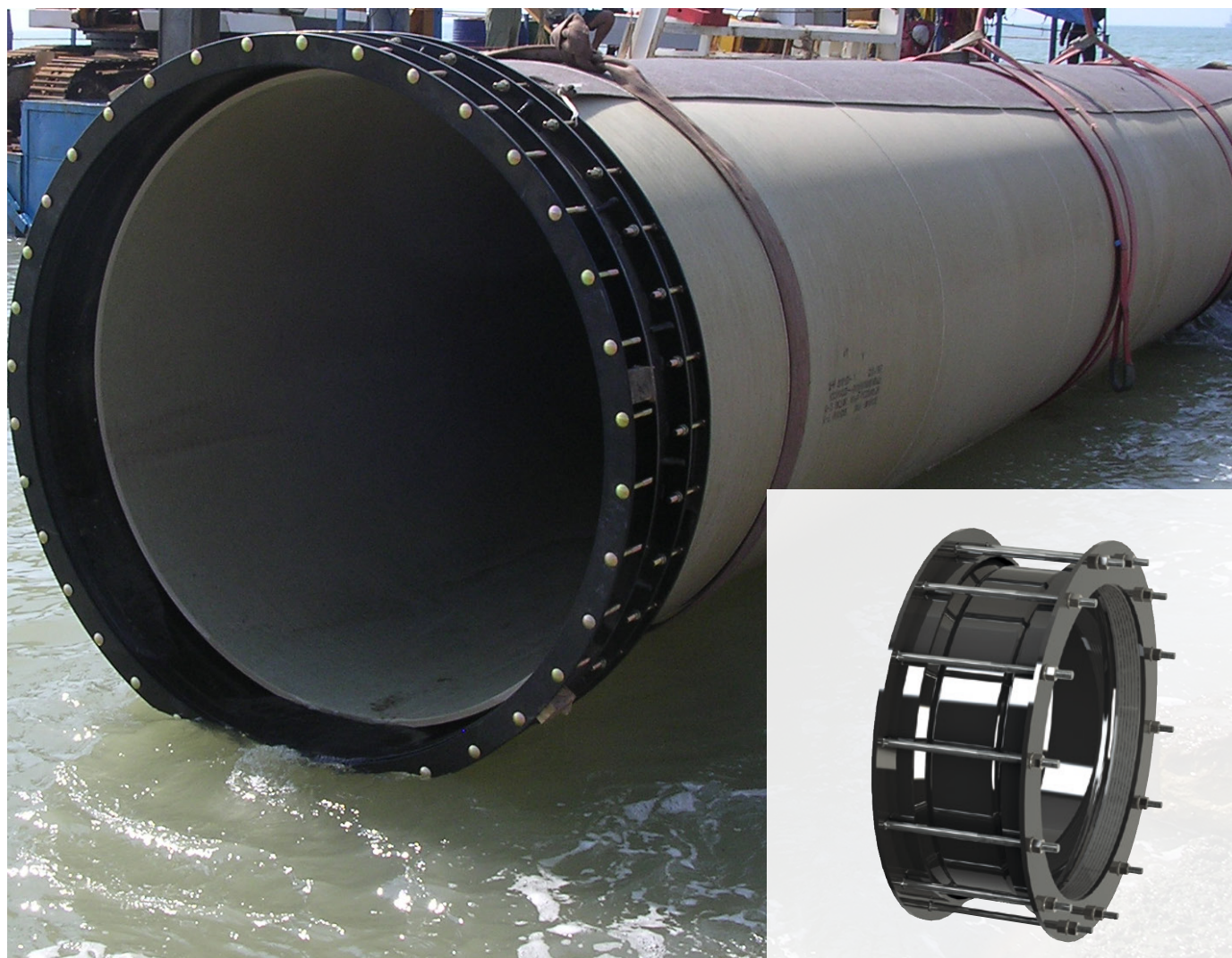
Flange DN	Socket DN	MOP (PN)	Ød		TYPE	L1	Max. external dimension ØC	Compression bolts		Gap X		Weight		
								Quantity N						
300	300	10/16	320	350	A	255	500	8		180	25	62		
350	350		340	370			520	10				64		
			360	390			540					65		
			390	420			580					76		
400	400		410	440			600					77		
			435	465			620	12				90		
			460	490			640					92		
500	500		490	520			680					113		
			510	540			700					114		
			535	565			720					117		
600	600		560	590	B	285	740	210	170	119				
			590	620	A	255	763	14		180	25	153		
			620	650			793					156		
700	700		645	675	B	285	818			210	170	158		
			670	700	843	16				165				
			695	725	A					255	868	180	25	167
720	750		893	169										
800	800		750	780	B					285	923	210	170	172
			780	810	953					18				176
			805	835	A	255	978	180	25					178
835	865		1008	181										
900	900		860	890	B	285	1033	210	170					183
			895	925	A	255	1068	180	25					201
			925	955			1098			204				
1000	1000		955	985	B	285	1128	210	170	206				
			985	1015	1158	20				241				
			1000	1030	A					255	1173	180	25	242
1030	1060		1203	245										
1200	1200		1060	1090	B					285	1233	210	170	247
			1185	1215	A					255	1358	24		180
			1205	1235		1378	26		317					
1235	1265		1408	320										
1385	1415		1558	28		367								
1400	1400		1410			1440	1583	30			370			
			1440			1470	1613				372			
			1585	1615		1758	34				473			
1600	1600		1610	1640		1783			475					
			1650	1680		1823			479					
			1825	1855		1998			40		523			
1800	1800		1860	1890		2033	42	526						
			2020	2050		2193	46	631						
			2065	2095		2238	48	635						

APPLICATION EXAMPLE



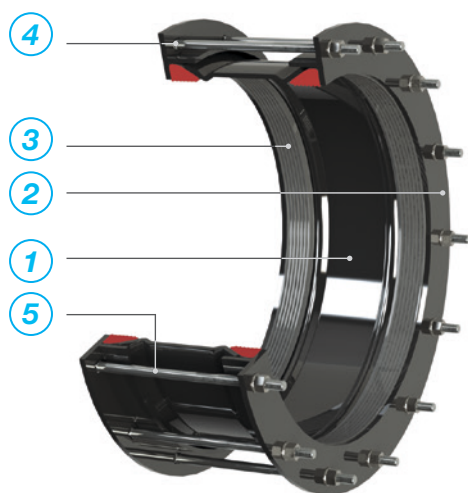
MULTISIZE

COUPLINGS AND FLANGE ADAPTORS



	STANDARD	OPTIONS
ORDER-NO.	NSM10	NSM40A / NSM40B
NOMINAL SIZES (DN)	350 - 1200	
PRESSURE MOP (PN)	PN 10, PN 16	
MEDIUM	Potable and raw water	
BODY	Carbon steel	
COMPRESSION RINGS	Ductile iron* Carbon steel**	
SEALING GASKETS	EPDM rubber	NBR
COMPRESSION BOLTS	Steel with dacromet coating	Grade 304/316 stainless steel
COATING	Rilsan nylon 11	
RANGE Ø d	* 30 ≤ Ø d 650 ** 24 ≥ Ø d 652	
FOR FLANGED VERSION	EN 1092	
FLANGES	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 movement 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 24 mm or 30 mm of tolerance range on pipe OD.

④ Bolt holes

Round or square holes for the bolts installation.

⑤ Compression bolts

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

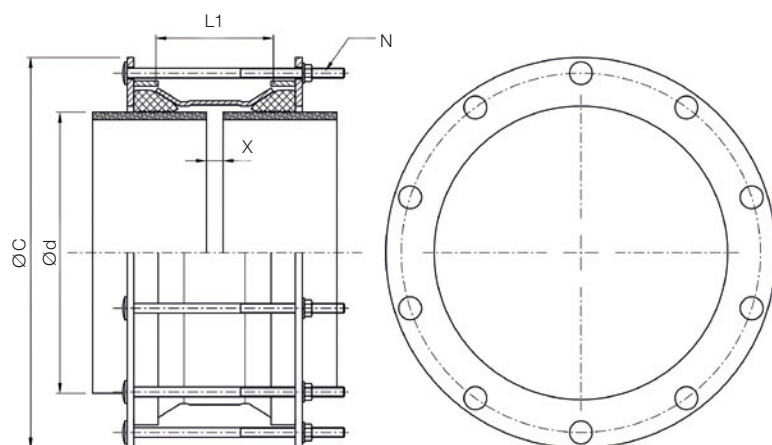
⑥ Connection flange (Flanged version)

Carbon steel flange.

MULTISIZE

SINGLE BOLT COUPLING

No. NSM10



PN 16

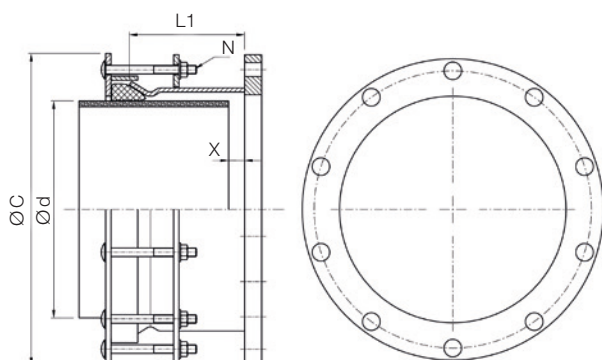


Multisize series and wide range steel fittings provide the maximum hydraulic seal, however do not restrain axial pipes movement (for this type of products please refer to the MULTIGRIP section)

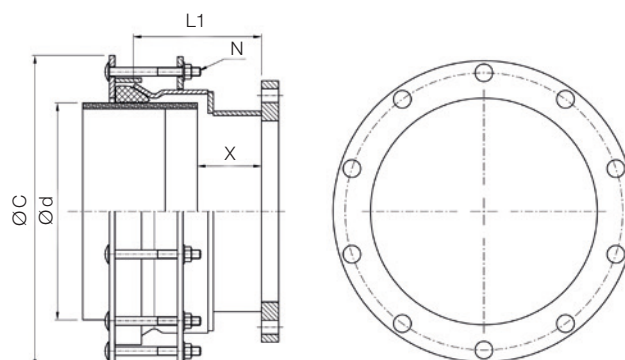
DN	MOP (PN)	Ø d		L1	Max. external dimension Ø C	Compression bolts	Gap X		Weight
		min.	max.			Quantity N	max.	min.	
350	16	340	370	170	546	10	60	20	35
400		365	395		571				37
		390	420		596				40
		410	440		616				42
		450	438		468	644			45
465			495		671	47			
500		490	520		696	49			
		518	548		724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

MULTISIZE FLANGE ADAPTOR

No. NSM40A / NSM40B



TYPE A



TYPE B

PN 10/16

Multisize series and wide range steel fittings provide the maximum hydraulic seal, however do not restrain axial pipes movement (for this type of products please refer to the MULTIGRIP section)

Flange DN	Socket DN	MOP (PN)	Ød		TYP	L1	Max. external dimension ØC	Compression bolts	Gap X		Weight	
			min.	max.				Quantity N	max.	min.		
350	350	10/16	340	370	A	216	546	10	160	20	62	
			365	395			571				64	
400	400		390	420			596				73	
			410	440			616				75	
450	450		438	468			644	12			88	
			465	495			671				90	
500	500		490	520			696				110	
			518	548			724				112	
600	600		590	620			796	14			150	
			620	650			826				152	
			652	676			819				154	
700	700		680	704			847	16			156	
			700	724			867				158	
			726	750			893				161	
			754	778	921		170		120	165		
800	800		792	816	A		959	18	172			
			806	830			973		160	20	173	
			824	848	B		991		175			
856	880		1023	170			120	177				
900	900		882	906	A		1049	20	194			
			902	926			1069		160	20	196	
			934	958	B		1101		198			
			960	984			1127		170	120	200	
1000	1000		996	1020	A		1163	22	235			
			1016	1040			1183		160	20	237	
			1036	1060			1203		239			
			1068	1092	B		1235		170	120	241	
			1100	1124			1267		244			
			1116	1140			1283		245			
1100	1100		1140	1164	A		1307	24	247			
			1180	1204			1347		308			
			1206	1230			1373		26	160	20	310
			1244	1268			1411					313

MULTIGRIP

LOW PRESSURE END RESTRAINT COUPLINGS AND FLANGE ADAPTORS



	STANDARD	OPTIONS
ORDER-NR.	NSMGL-S	NSMGL-F
NOMINAL SIZES DN	300 - 1000	
PRESSURE (MOP) PN	PN 6	
MEDIUM	Potable and raw 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 Ø d	20	
FOR FLANGED VERSION	EN 1092	
FLANGES	PN 6	

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 movement 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 of tolerance range on 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 Radial set of pull-out resistance grippers

Manufactured from 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.

⑥a Bolts

Bolts of stainless steel 8.8, coated with dacromet, for fixing the gripper elements (6).

⑦ End restraint box

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

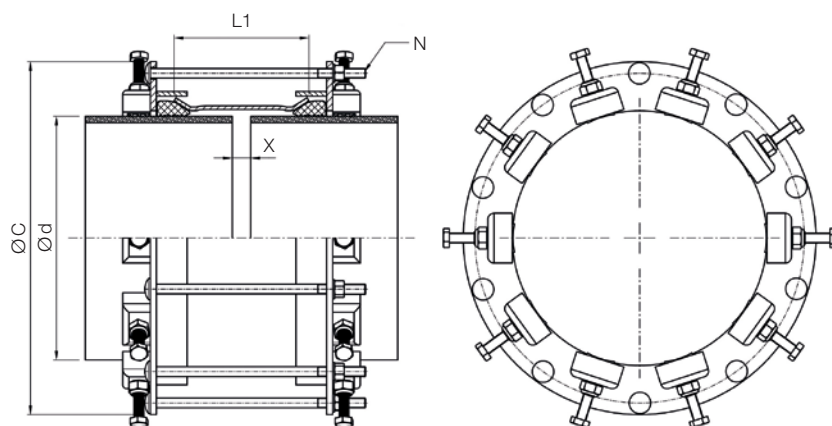
⑧ Connection flange (Flanged version)

Carbon steel flange.

MULTIGRIP

LOW PRESSURE COUPLING

No. NSMGL-S



PN 6 RATED HYDRAULIC SEALING AND END RESTRAINT SYSTEM



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

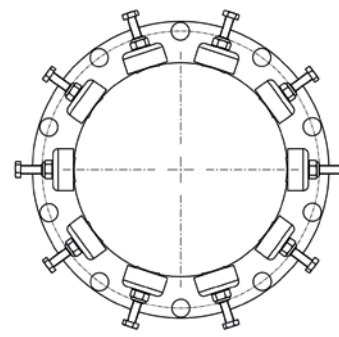
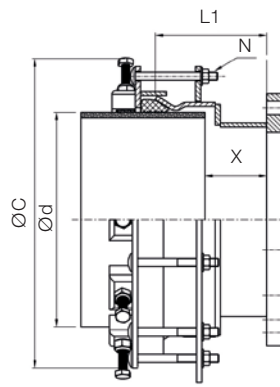
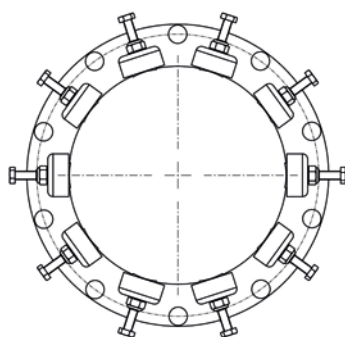
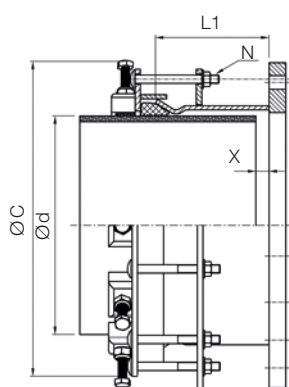
All end restraint fittings installed on PE or pressure PVC pipes must be integrated with an internal reinforcing liner provided or approved by NOVA SIRIA.

DN	MOP (PN)	Ø d		L1	Max. external dimension Ø C	Compression bolts	Gap X		Weight
		min.	max.			Quantity N	max.	min.	
300	6	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	84			
		500	520		680	85			
		520	540		700	88			
		550	570		730	93			
		600	600		620	783			14
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

MULTIGRIP

LOW PRESSURE FLANGE ADAPTOR

No. NSMGL-F



TYPE A

TYPE B

PN 6 RATED HYDRAULIC SEALING AND END RESTRAINT SYSTEM

NOVA SIRIA'S 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.

Flange DN	Socket DN	MOP (PN)	Ø d		TYPE	L1	Max. external dimension Ø C	Compression bolts	Gap X		Weight
								Quantity N			
300	300	6	305	325	A	216	490	9	160	25	56
			315	335			500				57
350	350		345	365			530				68
			370	390			550				69
400	400		390	410			570				78
			420	440			600				80
450	450		445	465	630	96					
			470	490	650	98					
500	500		490	510	670	117					
			500	520	680	118					
			520	540	700	119					
			550	570	B	226	730	170	90	130	
600	600		600	620	A	216	783	14	160	25	166
			625	645			808				168
700	700		700	720			883	16			161
			730	750			913				163
800	800		790	810			973	18			192
			805	825			988				193
			830	850			1013				195
900	900		890	910			1073	20			218
			905	925	1088	219					
			930	950	1113	220					
1000	1000		990	1010	1173	22	260				
			1005	1025	1188		261				
			1035	1055	1218		263				

MULTIGRIP

END RESTRAINT STEEL FITTINGS



	STANDARD	OPTIONS
ORDER-NO.	NSMGR-S	NSMGR-D / NSMGR-FA / NSMGR-FB
NOMINAL SIZES DN	350 - 1400 and bigger	
PRESSURE MOP (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 Ø d	30	

FOR FLANGED VERSION	EN 1092	Flanges according to different standards on request
FLANGES	PN 10, PN 16, (higher pressures on request)	

DESIGN FEATURES OF MULTIGRIP END RESTRAINT STEEL FITTINGS



1 Central body

Carbon steel central body conveniently built in order to allow a perfect movement 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 of tolerance range on 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 Radial set of pull-out resistance grippers

Manufactured from 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.

6a Bolts

Bolts of stainless steel 8.8, coated with dacromet, for fixing the gripper elements (6).

7 End restraint containing ring

Manufactured from 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.

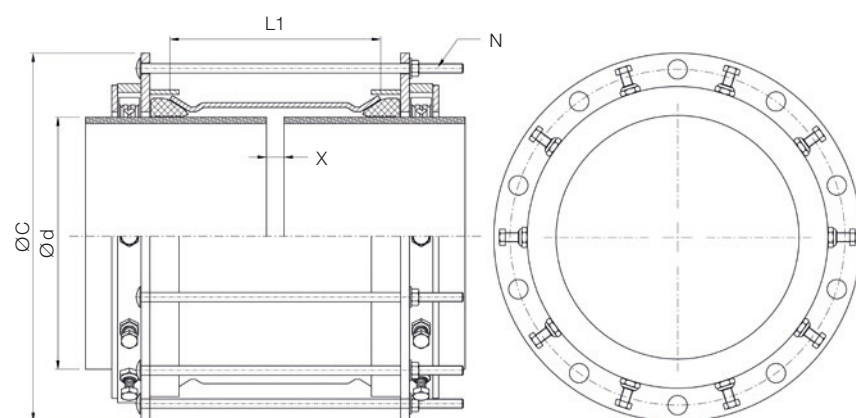
9 Separate bolts version

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

MULTIGRIP

SINGLE BOLT COUPLING

No. NSMGR-S



PN 10/16

NOVA SIRIA'S 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.



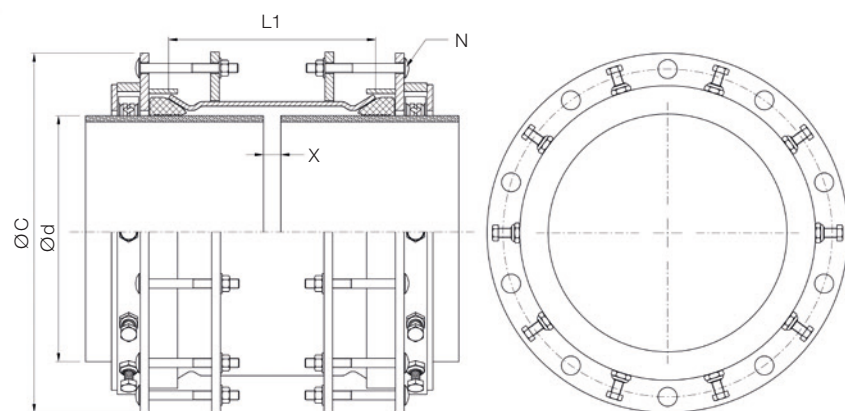
Other sizes or ranges on request

DN	MOP (PN)	Ø d		L1	Max. external dimension Ø C	Compression bolts	Gap X		Weight		
		min.	max.			Quantity N	max.	min.	PN 10	PN 16	
350	10/16	340	370	355	560	9	220	25	101	119	
		360	390		580				105	124	
400		385	415		600				12	110	130
		415	445		640					117	139
450		440	470		660	15				131	153
		465	495		680					136	159
500		490	520		720				18	142	166
		515	545		740					148	173
600		545	575		788	20				159	181
		595	625		808					171	192
700		615	645		828				22	175	197
		695	725		908					196	235
800		720	750		933	24				224	245
		785	815		998					239	262
900		795	825		1008				26	241	265
		825	855		1038					277	285
1000		885	915		1098	28				292	301
		900	930		1113					296	305
1100		930	960		1143				30	308	345
		985	1015		1198					322	361
1200		1000	1030		1213	32				326	366
		1030	1060		1243					359	380
1300	1100	1130	1313	34	378		-				
	1135	1165	1348		403		-				
1400	1185	1215	1398		36	418	-				
	1205	1235	1418			423	-				
1500	1240	1270	1453	38		438	-				
	1385	1415	1598			-	-				
1600	1405	1435	1618		40	-	-				
	1445	1475	1658			-	-				

MULTIGRIP

DOUBLE BOLT COUPLING

No. NSMGR-D



PN 10/16

NOVA SIRIA'S 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.

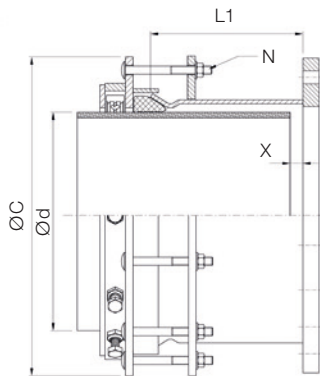
Other sizes or ranges on request

DN	MOP (PN)	Ø d		L1	Max. external dimension Ø C	Compression bolts	Gap X		Weight	
		min.	max.			Quantity N	max.	min.	PN 10	PN 16
350	10/16	340	370	355	560	18	220	25	127	156
		360	390		580				133	163
400		385	415		600				144	172
		415	445		640				148	182
450		440	470		660	24			163	199
		465	495		680				170	207
500		490	520		720				177	216
		515	545		740				184	225
560		545	575		788	28			207	228
600		595	625		808	30			222	244
		615	645		828				228	250
700		695	725		908	36			254	295
		720	750		933				284	307
800		785	815		998				304	329
		795	825		1008				307	332
900		825	855		1038	40			347	355
		885	915		1098				367	376
1000		900	930		1113				372	381
		930	960		1143				386	425
1100		985	1015		1198	44			404	446
		1000	1030		1213				409	451
1200		1030	1060		1243				447	465
		1100	1130		1313				48	471
1300	1135	1165	1348	499	-					
	1185	1215	1398	517	-					
1400	1205	1235	1418	525	-					
	1240	1270	1453	542	-					
1500	1385	1415	1598	60	-	-				
	1405	1435	1618		-	-				
	1445	1475	1658		64	-	-			

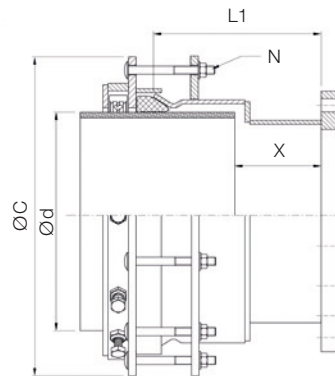
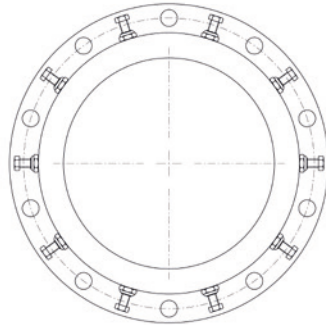
MULTIGRIP

FLANGE ADAPTOR

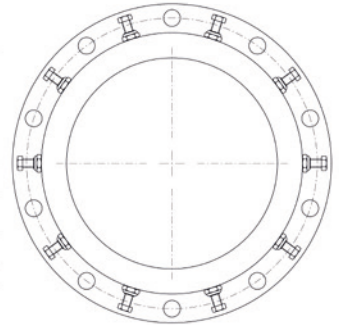
No. NSMGR-FA / NSMGR-FB



TYPE A



TYPE B



PN 10/16



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

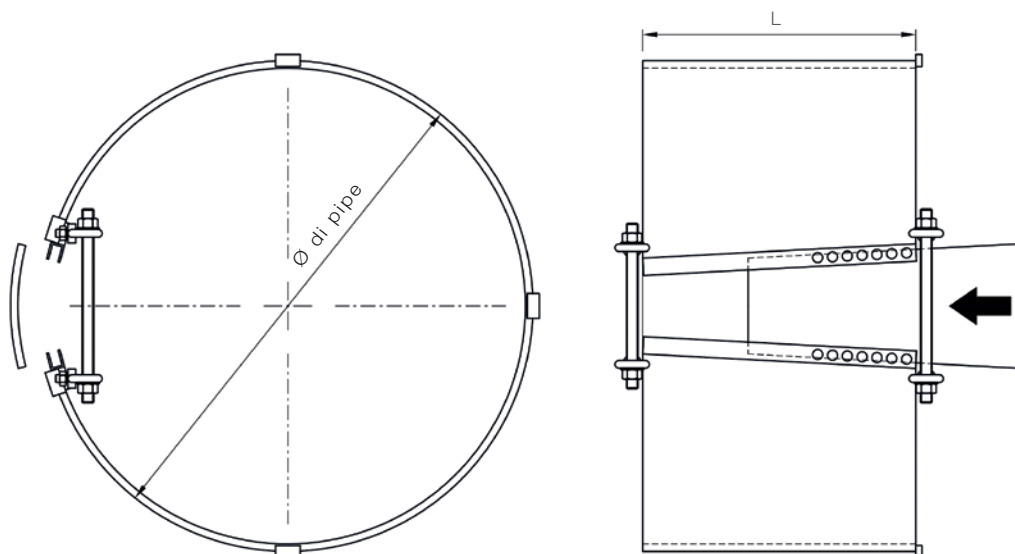
All end restraint fittings installed on PE or pressure PVC pipes must be integrated with an internal reinforcing liner provided or approved by NOVA SIRIA.

Other sizes or ranges on request

Flange DN	Socket DN	Flange MOP (PN)			Socket MOP (PN)			Ø d		TYPE	L1	Max. external dimension Ø C	Compression bolts Quantity N	Gap X		Weight			
350	350	10	10		340	370	A	296	560	9	220	25	106	132					
		16	10	16	360	390			580				109	136					
		10	10																
400	400	16	10	16	385	415			600				122	150					
		10	10																
		16	10	16	415	445			640				127	157					
450	450	10	10		440	470			660				12	143	178				
		16	10	16	465	495			680							148	183		
		10	10																
500	500	16	10	16	490	520			720	165	213								
		10	10																
		16	10	16	515	545			740			160				208			
600	600	10	10		545	575	B	326	788			14				250	170	178	216
		16	10	16	595	625			808			15				203	261		
		10	10																
700	700	16	10	16	615	645			828				207	265					
		10	10																
		16	10	16	695	725			908				18	238	278				
800	800	10	10		720	750			933	255	291								
		16	10	16	785	815			998	290	330								
		10	10																
900	900	16	10	16	795	825			1008	20	315							342	
		10	10																
		16	10	16	825	855			1038			292				332			
1000	1000	10	10		885	915	1098	22	345			375							
		16	10	16	900	930	1113									366	440		
		10	10																
1200	1200	16	10	16	930	960	1143						24	403	490				
		10	10																
		16	10	16	985	1015	1198									407	494		
1400	1400	16	10	16	1000	1030	1213			30	556					-			
		10	10																
		16	10	16	1030	1060	1243										460	510	
1200	1200	16	10	16	1185	1215	1398	24	561			-							
		10	10																
		16	10	16	1205	1235	1418										580	-	
1400	1400	10	10		1240	1270	1453						30	-	-				
		16	10	16	1385	1415	1598										-	-	
		10	10																
1400	1400	16	10	16	1405	1435	1618			30	-					-			
		10	10																
		16	10	16	1445	1475	1658										-	-	

LINERS

No. NSCAN



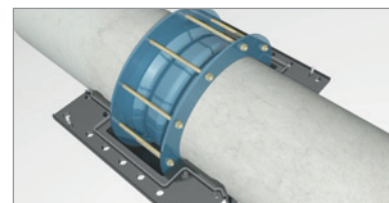
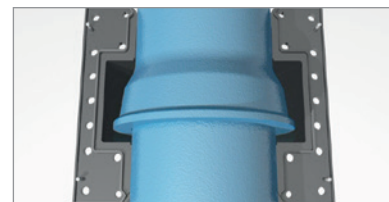
Always use the **NOVA SIRIA** reinforcing liner inside the pipe when installing an end restraint coupling onto PE and pressure PVC pipes. Liners are manufactured from carbon steel and coated with Rilsan Nylon 11 anticorrosion coating. The liners reinforce the section of the pipe intended for the **MULTIGRIP** 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.

During the liner installation stage, once the insertion of grub screws and nuts system is completed, the internal threaded bolts, nuts and washers, necessary to expand the liner will be removed in order to unscrew the lifting eyes. **IN THIS WAY NO INTERNAL OBSTRUCTION OF FLOW WILL BE CREATED.**

No. NSCAN	SDR			
	7,4	11	17	26
Ø PE/PVC pipe	Ø di pipe			
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	-	581,0	625,8	655,6
800	-	654,6	705,2	738,8
900	-	736,6	793,7	831,2
1000	-	818,4	881,4	923,6
1200	-	-	-	1108,2
1400	-	-	-	1293,0
1600	-	-	-	1477,6
L	350			

DUOFIT

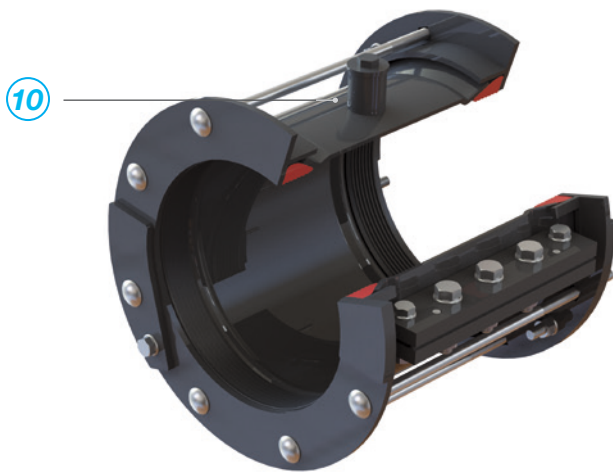
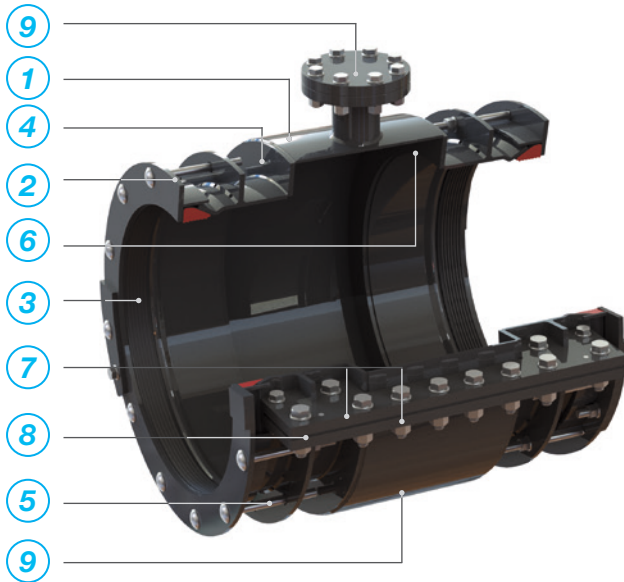
COUPLING IN TWO PIECES FOR PIPE REPAIR AND HOT-TAPPING WITHOUT FLOW INTERRUPTION



	STANDARD	OPTIONS
ORDER-NO.	NSD30A / NSD30B / NSD30C	NSD10 / NSD20-D
NOMINAL SIZES DN	300 - 2000 and bigger	
PRESSURE MOP (PN)	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
COATING	Rilsan nylon 11	
RANGE Ø d	30	

DESIGN FEATURES

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



1 Central body

Carbon steel central body conveniently built in order to allow a perfect movement 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 of tolerance range on 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 from 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 from 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.

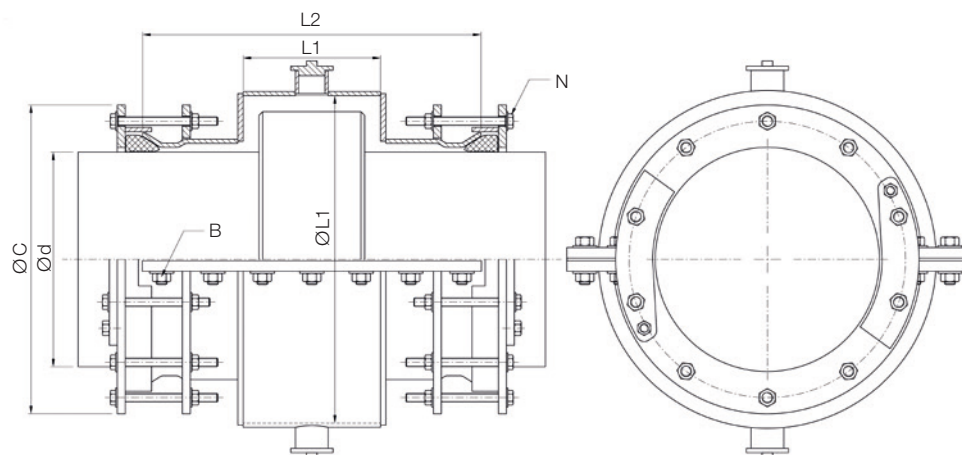
11 Separate followers version

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

DUOFIT

SHAPED VERSION

No. NSD30A / NSD30B / NSD30C



PN 16

NSD30 shaped version for repairs on sleeve collars of asbestos cement pipes, DCI pipes sockets, on a "GIBAUT" type joints, PE electrowelded fittings without interruption of supply. **NSD30** version duofits can be also used for hot-tapping techniques on pipes of any material and diameter with running fluids.



No. NSD30A for cast iron pipes

Other sizes or ranges on request

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

No. for asbestos cement pipe cl.10

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

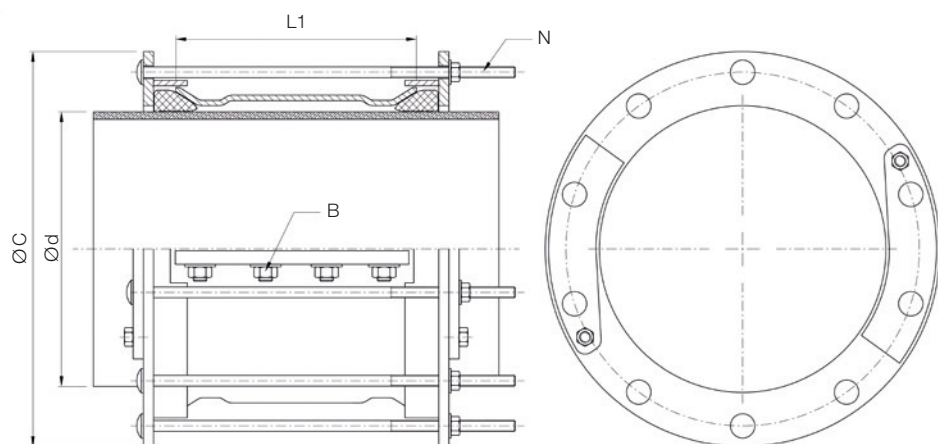
No. NSD30C for SDR 17 PE pipes on electrowelded body

355	16	340	370	350	460	842	533	20	26	219
400		385	415	400	520	892	578	20	30	244
450		435	465	440	560	932	628	24		266
500		485	515	460	620	952	678	24		288
560		545	575	500	680	992	738	28	32	316
630		615	645	550	770	1042	808	28		356
710		695	725		870		888	32	34	392
800		785	815		970		978	32	36	426
900		885	915	570	1080	1062	1078	36	38	472
1000		985	1015		1190		1178	40	40	513
1100		1085	1115		1290		1278	44	44	558
1200		1185	1215		1410		1378	48	48	612

DUOFIT

SINGLE BOLT STRAIGHT VERSION

No. NSD10



PN 16

Straight version **DUOFIT NSD10** for repairs on damaged pipes (cracks, faulty weldings, corrosion, etc.) with no service cut off on pipes of any diameter. Can be also used for hot tapping techniques on pipes of any material and diameter with running fluids.

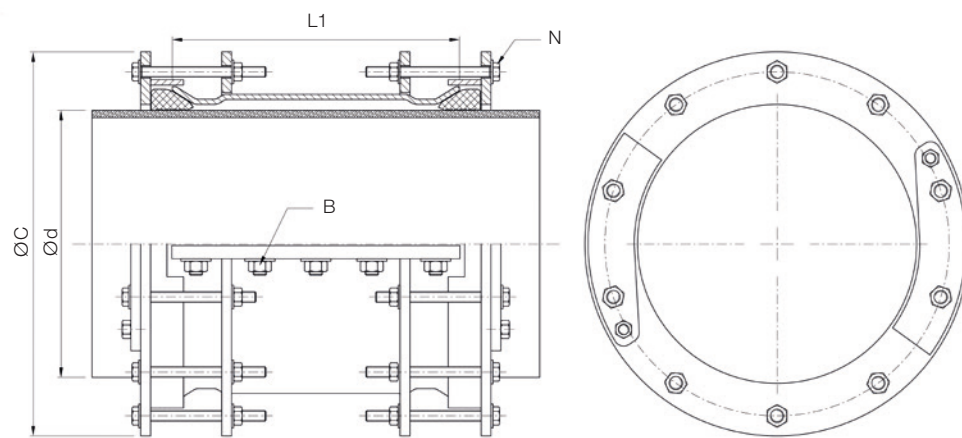
Other sizes or ranges on request

DN	MOP (PN)	Ø d		L1	Max. external dimension Ø C	No. Flange bolts N	No. lateral plates bolts B	Weight
		min.	max.					
300	16	320	350	355	500	8	10	99
350		340	370		520	10		105
		360	390		540			108
400		390	420		580	12		113
		410	440		600			116
450		435	465		620	14		123
		460	490		640			127
500		490	520		680	16		132
		510	540		700			135
		535	565		720			142
		560	590		740			146
600		590	620		783	18		151
		620	650		813			160
		645	675		838			164
		670	700		863			171
700		695	725		888	20		175
		720	750		913			179
		750	780		943			184
		780	810		973			189
800		835	865		1028	22		200
		860	890		1053			205
		895	925		1088			214
		925	955		1118			222
900		955	985		1148	24		227
		985	1015		1178			232
		1000	1030		1193			237
		1030	1060		1223			241
1000		1060	1090		1253	26		246
		1080	1110		1273			250
		1100	1130		1293			255
		1130	1160		1323			260
1100		1160	1190		1353	28		265
		1185	1215		1378			270
		1205	1235		1398			275
		1235	1265		1428			280
1200		1300	1330		1493	30		297
		1335	1365		1528			303
		1385	1415		1578			311
		1410	1440		1603			318
1300		1440	1470		1633	32		323
		1510	1540		1703			337
		1585	1615		1778			349
		1610	1640		1803			356
1400		1650	1680		1843	34		363
		1825	1855		2018			403
		1860	1890		2053			42
		2020	2050		2213			46
1500		2065	2095		2258	48		442
				450				

DUOFIT

DOUBLE BOLT STRAIGHT VERSION

No. NSD20-D



PN 16

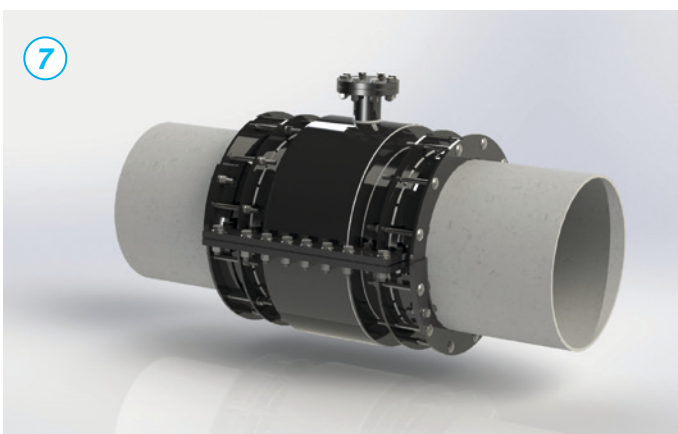
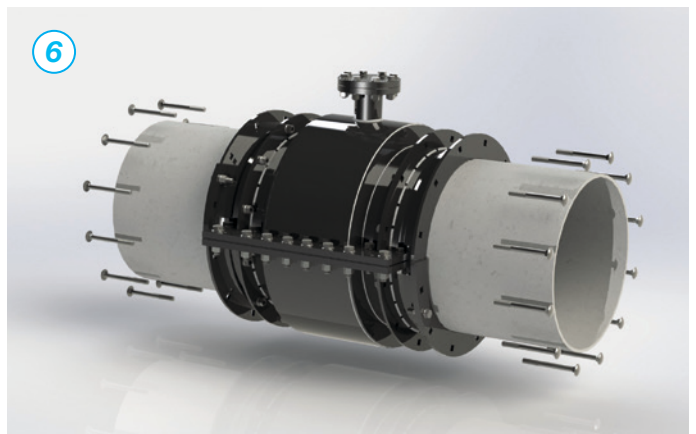
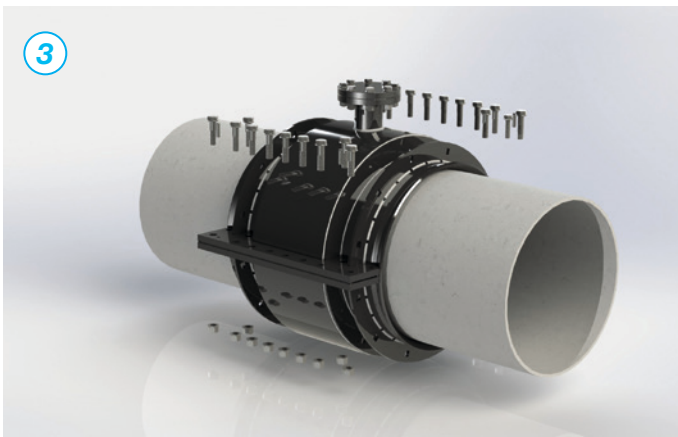
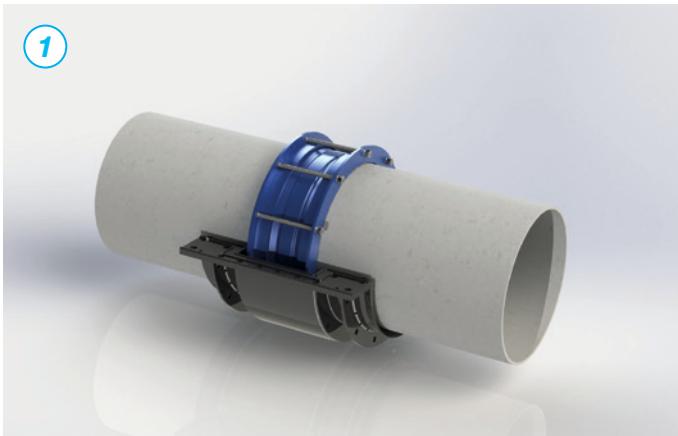
Straight version **DUOFIT NSD20** for repairs on damaged pipes (cracks, faulty weldings, corrosion, etc.) with no service interruption on pipes of any diameter. Can also be used for hot-tapping techniques on pipes of any material and diameter with running fluids.



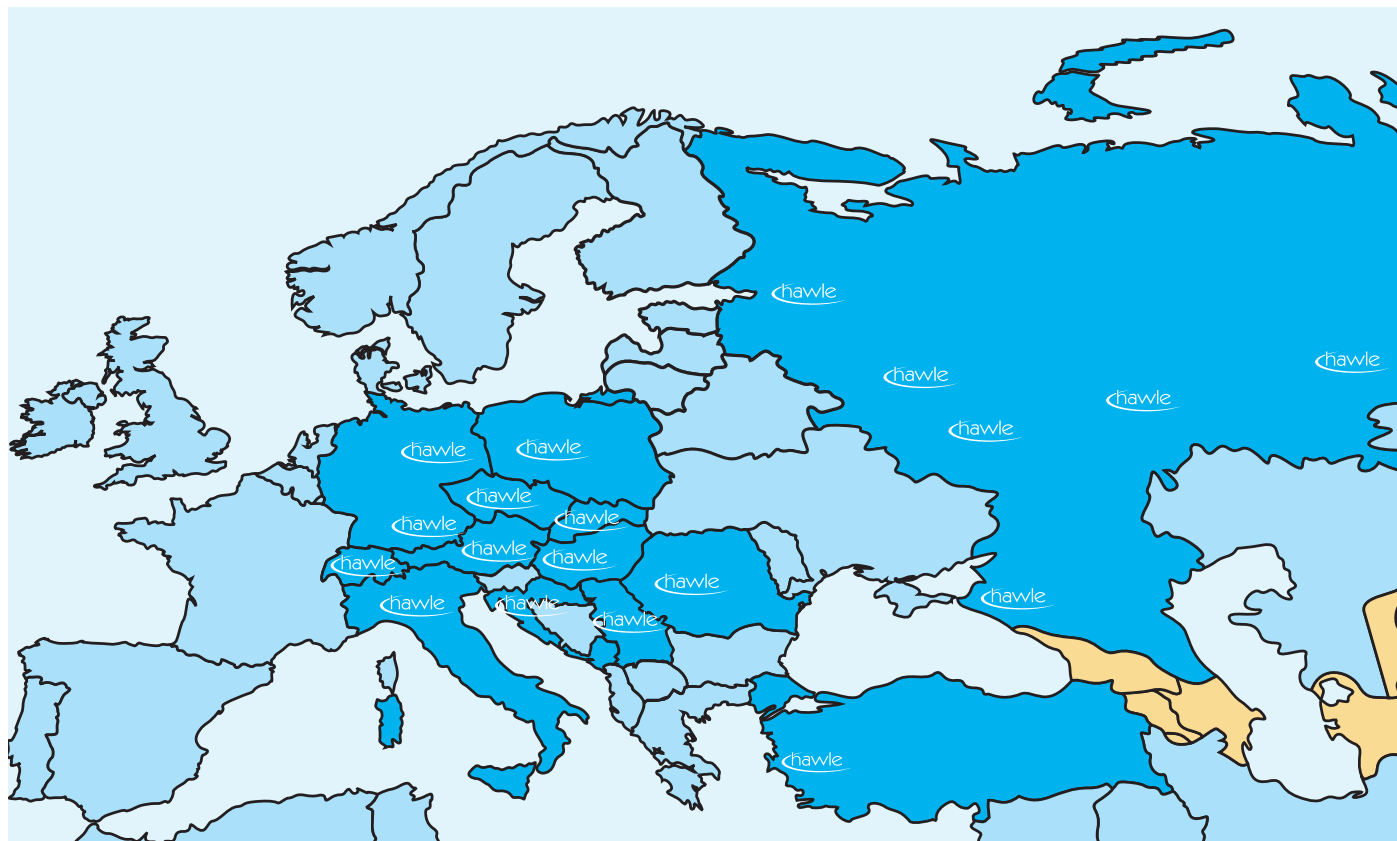
Other sizes or ranges on request

DN	MOP (PN)	Ø d		L1	Max. external dimension Ø C	No. Flange bolts N	No. lateral plates bolts B	Weight	
		min.	max.						
300	16	320	350	435	513	16	12	118	
350		340	370		533	20		125	
		360	390		553			129	
400		390	420		583	24		135	
		410	440		603			139	
450		435	465		628	28		147	
		460	490		653			152	
500		490	520		683	32		158	
		510	540		703			162	
		535	565		728			36	171
		560	590		753				176
600		590	620		783	40		186	
		620	650		813			192	
		645	675		838			44	197
		670	700		863				205
700		695	725		888	48		210	
		720	750		913			215	
		750	780		943			52	221
		780	810		973				227
800		835	865		1028	56		241	
		860	890		1053			246	
		895	925		1088			60	257
		925	955		1118				267
900		955	985		1148	64		273	
		985	1015		1178			279	
		1000	1030		1193			68	285
		1030	1060		1223				291
1000		1060	1090		1253	72		297	
		1080	1110		1273			301	
		1100	1130		1293			76	308
		1130	1160		1323				314
1100		1160	1190		1353	80		320	
		1185	1215		1378			325	
		1200	1235		1398			84	333
		1235	1265		1428				339
1200		1300	1330		1493	88		359	
		1335	1365		1528			366	
		1385	1415		1578			92	376
		1410	1440		1603				384
1300		1440	1470		1633	96		390	
		1510	1540		1703			407	
		1585	1615		1778			100	422
		1610	1640		1803				431
1400		1650	1680		1843	104		439	
		1825	1855		2018			488	
		1860	1890		2053			108	495
		2020	2050		2213				536
1500		2065	2095		2258	112		545	

DUOFIT ASSEMBLING STEPS



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