

# 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.

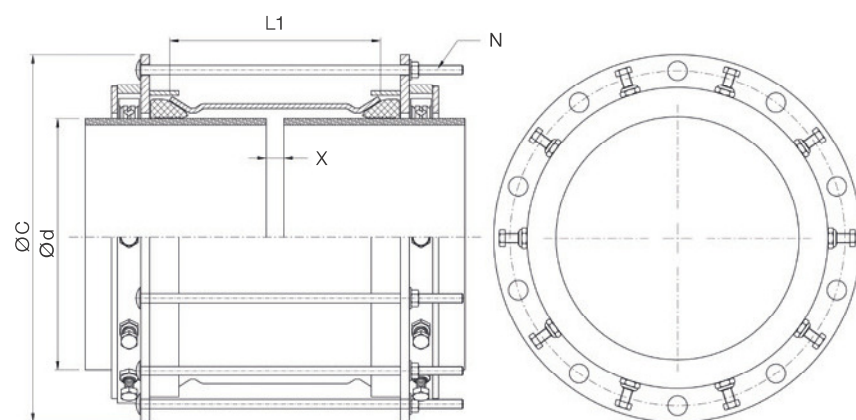
### 9 Separate bolts version

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



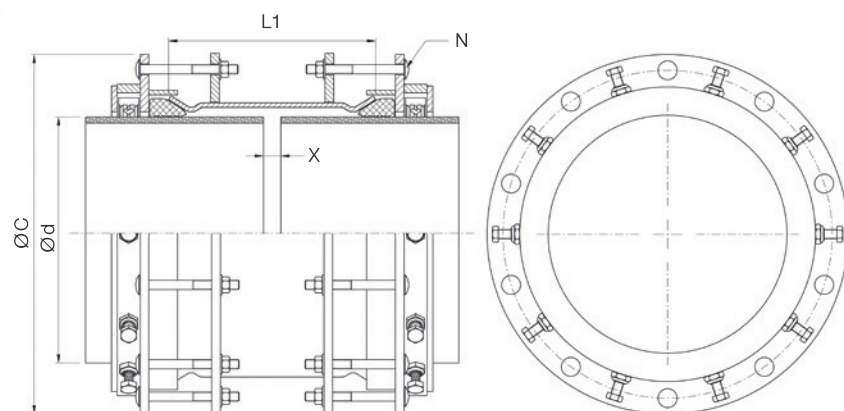
DN	MOP (PN)	Ø d		L1	Max. external dimension Ø C	Compression bolts	Gap X		Weight	
		min.	max.			Quantity N	max.	min.	PN 10	PN 16
350	10/16	340	370	355	560	9	220	25	101	119
		360	390		580				105	124
400		385	415		600				110	130
		415	445		640				117	139
450		440	470		660	12			131	153
		465	495		680				136	159
500		490	520		720				142	166
		515	545		740				148	173
500		545	575		788	14			159	181
		600	595		625	808			15	171
615			645		828	175				197
700		695	725		908	18			196	235
		720	750		933				224	245
800		785	815		998				239	262
		795	825		1008				241	265
800		825	855		1038				277	285
		885	915		1098				292	301
900		900	930		1113	20			296	305
		930	960		1143				308	345
1000		985	1015		1198				22	322
		1000	1030		1213	326				366
		1030	1060		1243	359				380
1100	10	1100	1130		1313	24			378	-
		1135	1165		1348				403	-
1200		1185	1215		1398				418	-
		1205	1235		1418				423	-
1240		1270	1453		438				-	
1400	-	1385	1415		1598	30			-	-
		1405	1435		1618				-	-
		1445	1475		1658	32			-	-



# MULTIGRIP

## DOUBLE BOLT COUPLING

No. NSMGR-D



### PN 10/16

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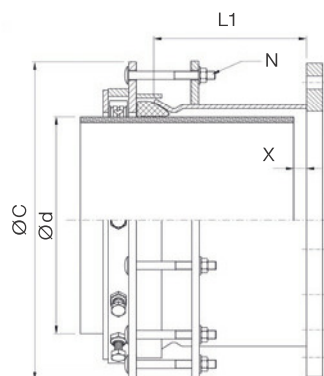
Other sizes or ranges on request

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
1400	1135	1165	1348		499	-				
	1185	1215	1398		517	-				
1400	1205	1235	1418		525	-				
	1240	1270	1453		542	-				
1400	1385	1415	1598		60	-			-	
	1405	1435	1618			-			-	
1400	-	1445	1475	1658	64	-	-			

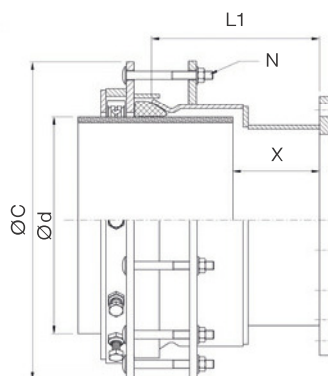
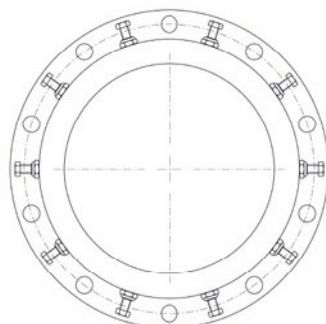
# MULTIGRIP

## FLANGE ADAPTOR

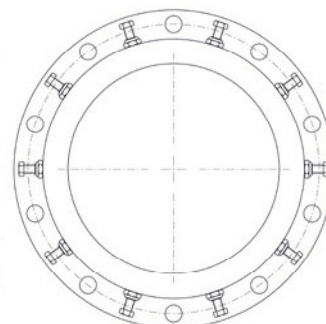
No. NSMGR-FA / NSMGR-FB



TYPE A



TYPE B



### PN 10/16

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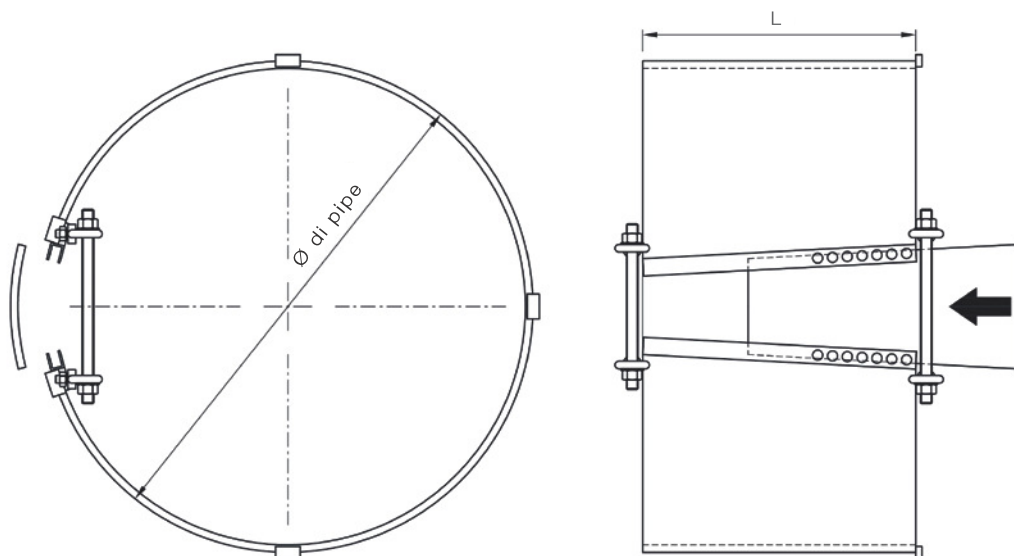
Other sizes or ranges on request



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									
															PN 10	PN 16								
350	350	10			10			340	370	A	296	560	9	220	25	106	132							
		16			10	16			360			390				109	136							
		10			10																			
400	400	16			10	16		385	415			600				640	122	150						
		10			10																			
		16			10	16		415	445			127				157								
450	450	10			10			440	470			660				12	220	25	143	178				
		16			10																			
		10			10	16		465	495			148							183					
500	500	16			10			490	520			720							12	220	25	160	208	
		10			10																			
		16			10	16		515	545			165										213		
		10			10																			
		16			10	16		545	575	178	216													
600	600	10			10			595	625	808	15	220	25	203	261									
		16			10	16		615	645	828				207	265									
		10			10																			
700	700	16			10			695	725	908				18	220							25	238	278
		10			10																			
		16			10	16		720	750	933						255	291							
800	800	10			10			785	815	998						18	220	25					290	330
		16			10																			
		10			10	16		795	825	1008									292	332				
		16			10																			
900	900	10			10			825	855	1038									20	220	25		315	342
		16			10	16		885	915	1098													342	355
		10			10			900	930	1113	345	375												
		16			10	16		930	960	1143	366	440												
1000	1000	10			10			985	1015	1198	22	220	25										403	490
		16			10																			
		10			10	16		1000	1030	1213				407	494									
		16			10																			
1200	1200	10			10	16		1030	1060	1243				24	220	25	460	510						
		16			10																			
		10			10			1185	1215	1398							556	-						
		16			-	-		1205	1235	1418							561	-						
1400	1400	10			10			1240	1270	1453							24	220	25	580	-			
		16			-	-																		
		10			-	-		1385	1415	1598										-	-			
		16			-	-		1405	1435	1618										-	-			
			10			1445	1475	1658	30			-	-											

# 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			