

# MULTIGRIP

## END RESTRAINT STEEL FITTINGS



	STANDARD	OPTIONS
<b>ORDER-NO.</b>	NSMGR-S	NSMGR-D / NSMGR-FA / NSMGR-FB
<b>NOMINAL SIZES DN</b>	350 - 1400 and bigger	
<b>PRESSURE MOP (PN)</b>	From PN 10 to PN 16 (higher pressures on request)	
<b>MEDIUM</b>	Potable and raw water	Sea water
<b>BODY</b>	Carbon steel	
<b>COMPRESSION RINGS</b>	Carbon steel	
<b>SEALING GASKETS</b>	EPDM rubber	NBR, NEOPRENE
<b>COMPRESSION BOLTS</b>	steel with dacromet coating	Grade 304 / 316 stainless steel
<b>END RESTRAINT GRIPPERS</b>	Tempered steel with dacromet coating	Martensitic stainless steel
<b>COATING</b>	Rilsan nylon 11	
<b>RANGE Ød</b>	30	

<b>FOR FLANGED VERSION</b>	EN 1092	Flanges according to different standards on request
<b>FLANGES</b>	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.

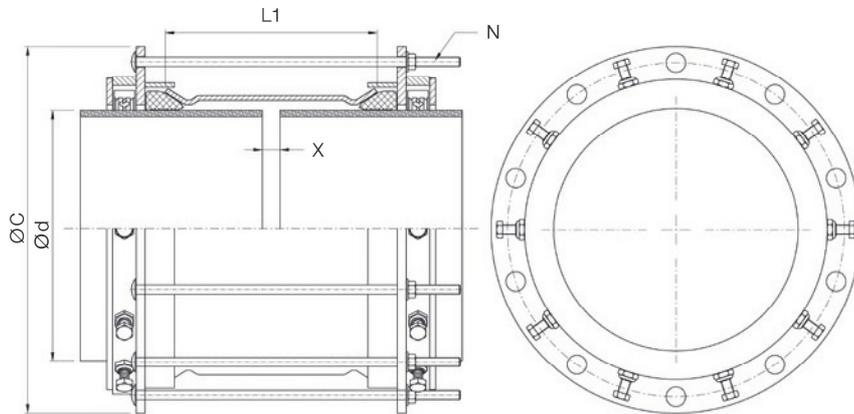
### 9 Separate bolts version

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

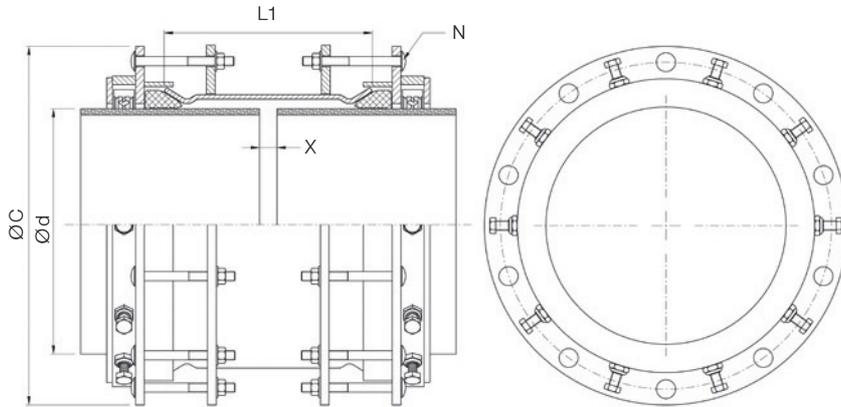


DN	MOP (PN)	Ød		L1	Max. external dimension ØC	Compression bolts		Gap X		Weight	
		min.	max.			Quantity N	max.	min.	PN 10	PN 16	
350	10/16	340	370	355	560	9	220	25	101	119	
		360	390		580				105	124	
400		385	415		600				110	130	
		415	445		640				117	139	
450		440	470		660	131			153		
		465	495		680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

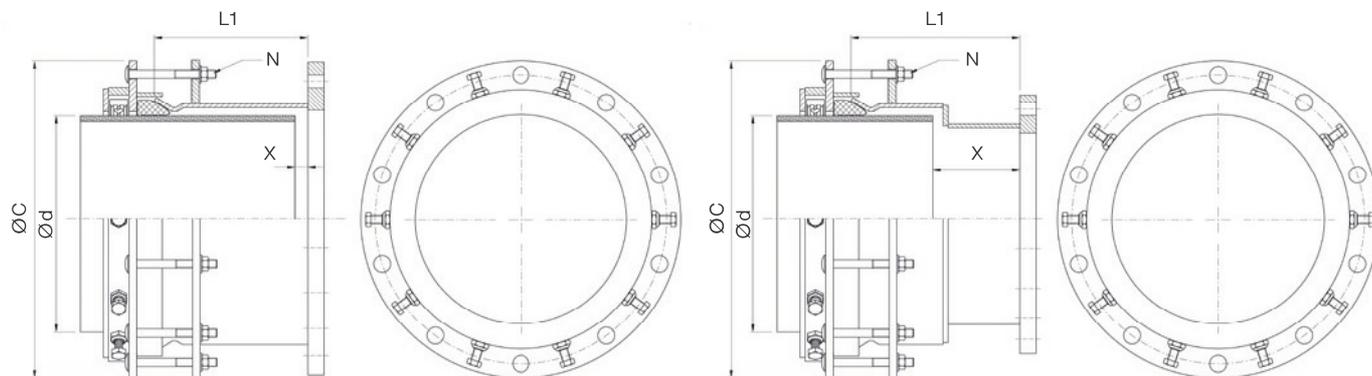
All end restraint fittings installed on PE or pressure PVC pipes must be integrated with an internal reinforcing liner provided or approved by NOVA SIRIA.

Other sizes or ranges on request

DN	MOP (PN)	Ød		L1	Max. external dimension ØC	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	163			199	
		465	495		680	170			207	
500		490	520		720	177			216	
		515	545		740	184			225	
560		545	575		788	207			228	
600		595	625		808	222			244	
		615	645		828	228			250	
700		695	725		908	254			295	
		720	750		933	284			307	
800		785	815		998	304			329	
		795	825		1008	307			332	
		825	855		1038	347			355	
	885	915	1098	367	376					
900	900	930	1113	372	381					
	930	960	1143	386	425					
	985	1015	1198	404	446					
1000	1000	1030	1213	409	451					
	1030	1060	1243	447	465					
1100	1100	1130	1313	471	-					
	1135	1165	1348	499	-					
1200	1185	1215	1398	517	-					
	1205	1235	1418	525	-					
	1240	1270	1453	542	-					
1400	1385	1415	1598	-	-					
	1405	1435	1618	-	-					
	1445	1475	1658	-	-					

# 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.

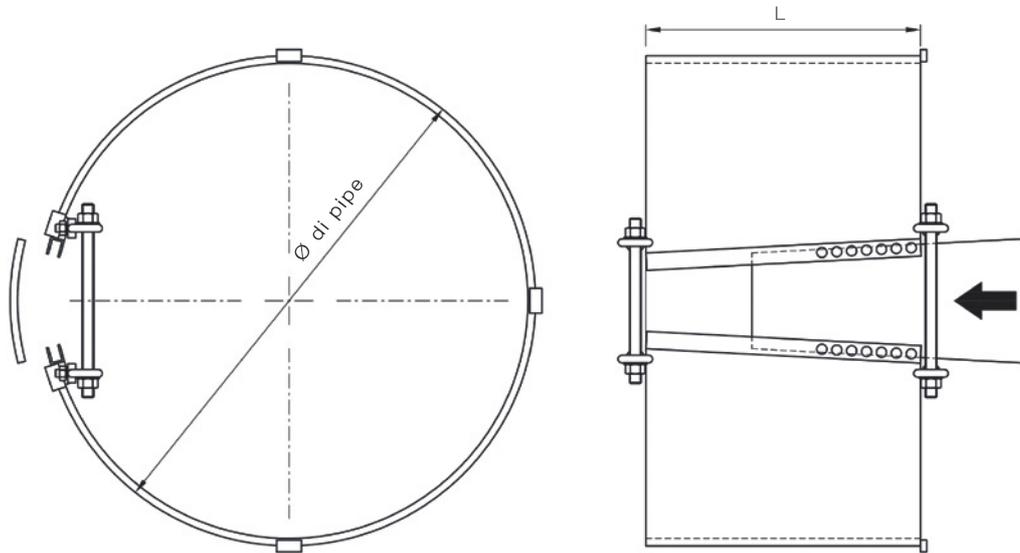
All end restraint fittings installed on PE or pressure PVC pipes must be integrated with an internal reinforcing liner provided or approved by NOVA SIRIA.

Other sizes or ranges on request

Flange DN	Socket DN	Flange MOP (PN)	Socket MOP (PN)	Ød		TYPE	L1	Max. external dimension ØC	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	109	136				
		10	10									360	390	122	150			
		16	10									16	127	157				
400	400	10	10	385	415			445				470	600	12	220	25	143	178
		16	10	16	148												183	
		10	10	415	445												160	208
		16	10	16	165												213	
450	450	10	10	440	470			495	515	660	12	220	25	178	216			
		16	10	16	183									216				
		10	10	465	495									208	240			
		16	10	16	213									240				
500	500	10	10	490	520	545	575	720	12	220	25	216	264					
		16	10	16	228							276						
		10	10	515	545							240	288					
		16	10	16	264							288						
550	550	10	10	545	575	595	625	740	12	220	25	264	312					
		16	10	16	288							312						
		10	10	575	605							312	336					
		16	10	16	336							336						
600	600	10	10	595	625	645	675	808	15	220	25	312	360					
		16	10	16	336							360						
		10	10	615	645							360	384					
		16	10	16	384							384						
650	650	10	10	645	675	705	735	828	15	220	25	360	408					
		16	10	16	408							408						
		10	10	675	705							408	432					
		16	10	16	432							432						
700	700	10	10	695	725	755	785	908	15	220	25	408	456					
		16	10	16	456							456						
		10	10	720	750							456	480					
		16	10	16	480							480						
750	750	10	10	720	750	785	815	933	15	220	25	456	504					
		16	10	16	504							504						
		10	10	750	780							504	528					
		16	10	16	528							528						
800	800	10	10	785	815	845	875	998	18	220	25	504	552					
		16	10	16	552							552						
		10	10	815	845							552	576					
		16	10	16	576							576						
850	850	10	10	815	845	875	905	1008	18	220	25	552	600					
		16	10	16	600							600						
		10	10	845	875							600	624					
		16	10	16	624							624						
900	900	10	10	845	875	905	935	1038	18	220	25	600	648					
		16	10	16	648							648						
		10	10	875	905							648	672					
		16	10	16	672							672						
950	950	10	10	875	905	935	965	1098	20	220	25	648	696					
		16	10	16	696							696						
		10	10	905	935							696	720					
		16	10	16	720							720						
1000	1000	10	10	905	935	965	995	1113	20	220	25	696	744					
		16	10	16	744							744						
		10	10	935	965							744	768					
		16	10	16	768							768						
1050	1050	10	10	935	965	995	1025	1143	20	220	25	744	792					
		16	10	16	792							792						
		10	10	965	995							792	816					
		16	10	16	816							816						
1100	1100	10	10	965	995	1025	1055	1198	22	220	25	792	840					
		16	10	16	840							840						
		10	10	995	1025							840	864					
		16	10	16	864							864						
1150	1150	10	10	995	1025	1055	1085	1213	22	220	25	840	888					
		16	10	16	888							888						
		10	10	1025	1055							888	912					
		16	10	16	912							912						
1200	1200	10	10	1025	1055	1085	1115	1243	24	220	25	888	936					
		16	10	16	936							936						
		10	10	1055	1085							936	960					
		16	10	16	960							960						
1250	1250	10	10	1055	1085	1115	1145	1398	24	220	25	936	984					
		16	10	16	984							984						
		10	10	1085	1115							984	1008					
		16	10	16	1008							1008						
1300	1300	10	10	1085	1115	1145	1175	1418	24	220	25	984	1032					
		16	10	16	1032							1032						
		10	10	1115	1145							1032	1056					
		16	10	16	1056							1056						
1350	1350	10	10	1115	1145	1175	1205	1453	24	220	25	1032	1080					
		16	10	16	1080							1080						
		10	10	1145	1175							1080	1104					
		16	10	16	1104							1104						
1400	1400	10	10	1145	1175	1205	1235	1598	30	220	25	1080	1128					
		16	10	16	1128							1128						
		10	10	1175	1205							1128	1152					
		16	10	16	1152							1152						
1450	1450	10	10	1175	1205	1235	1265	1618	30	220	25	1128	1176					
		16	10	16	1176							1176						
		10	10	1205	1235							1176	1200					
		16	10	16	1200							1200						
1500	1500	10	10	1205	1235	1265	1295	1658	30	220	25	1176	1224					
		16	10	16	1224							1224						
		10	10	1235	1265							1224	1248					
		16	10	16	1248							1248						

# 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			