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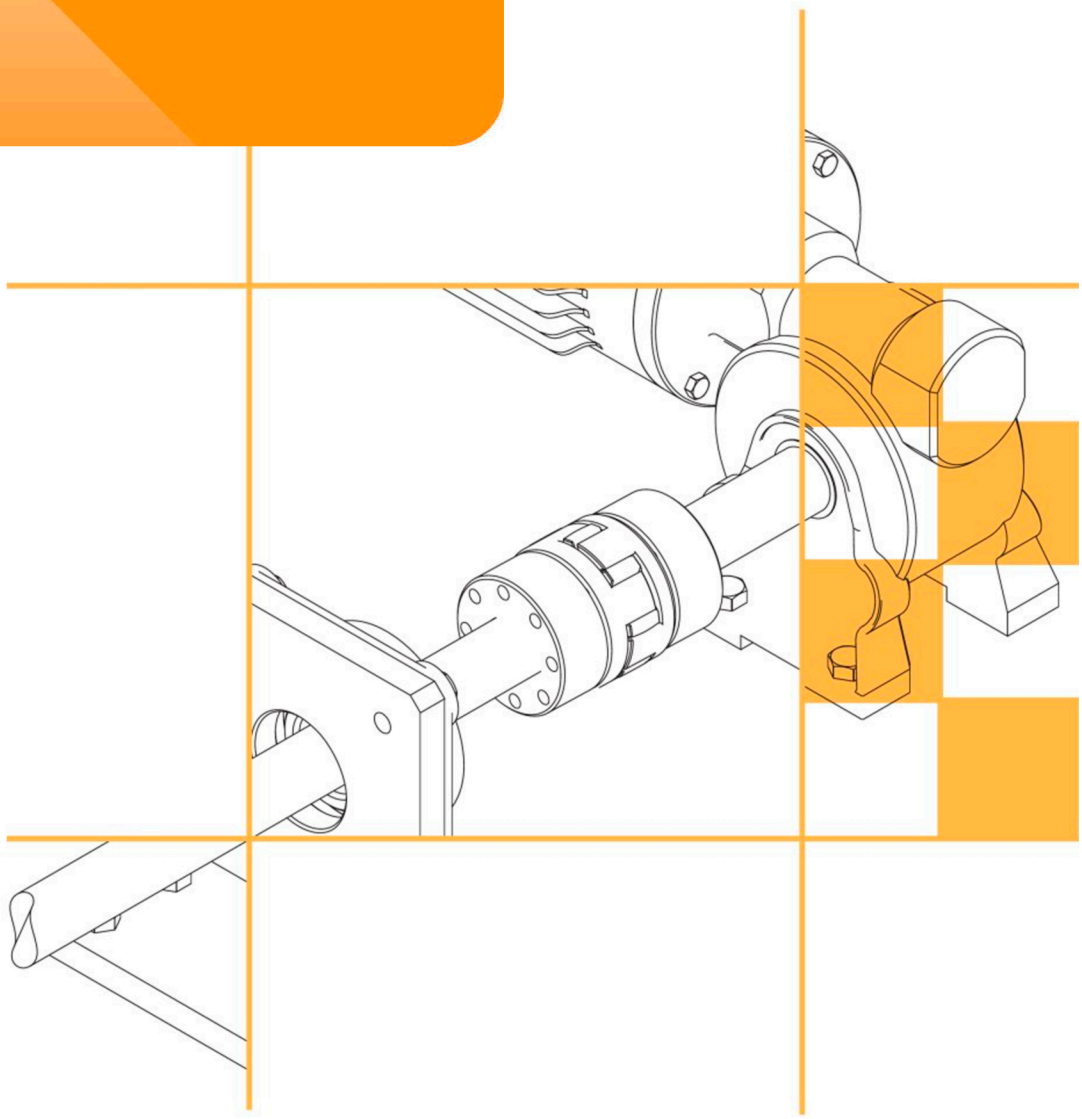
ACOPLAMIENTOS ESTRELLA



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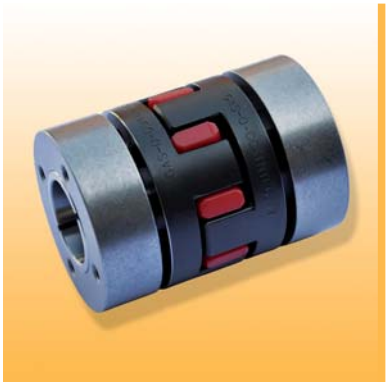
GAS/SG - backlash free jaw coupling: introduction



- Made in steel fully turned with standard phosphating treatment.
- Several elastomer hardnesses available.
- High torsional ridigity.
- Electric insulation between the parts.
- Statically balanced.
- Version with integrated locking assemblies (GAS/SG/CCE).

ON REQUEST

- Conformity to Directive ATEX possible.
- Specific treatments or version fully in stainless steel, aluminium, possible.
- Manufacturing made to length and customizations for specific needs.
- Connection to TORQUE LIMITERS range possible.

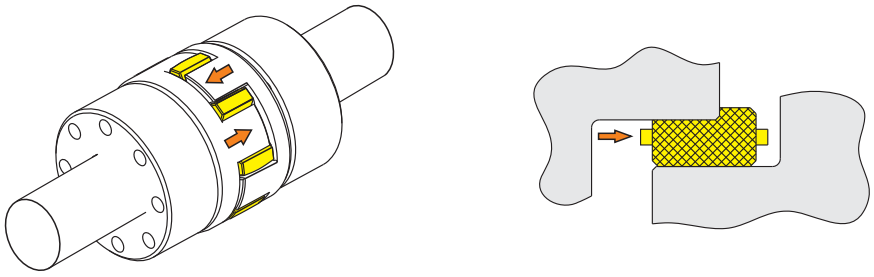
The coupling GAS/SG is an elastic coupling with compact dimensions composed of two hubs made in steel UNI EN10083/98, fully turned on low roughness and one elastomer.

The hub's tooth profile is designed allow to elastomeric element to work only by compression and not in shear, allowing for long life of the coupling in high reversal on load applications.

The presence of the elastomer assures:
- the possibility to absorb collisions and vibrations;
- to compensate the unavoidable misalignments between the shaft to connect;
- silence in motion transmission;

DESCRIPTION OF THE ELASTOMERIC ELEMENT

The fundamental item of this coupling is the elastomeric element or elastomer, made in polyurethane and available in several hardness grades, for different uses and applications. The elastomer is manufactured to resist ageing, scoring, fatigue, hydrolysis and UV radiations, promoting long life operation. Also resisting main chemical agents, like ozone, oils, grease and hydrocarbons.
The elastomeric element becomes prestressed during the assembly between the relevant hub's teeth, in order to be able to transmit the motion without backlash, so torsionally rigid inside the prestressing load. The prestressed elastomer's surface is sufficiently wide to induce a low contact pressure on the tooth of the same elastomer, reducing the permanent deformations, promoting a long life.



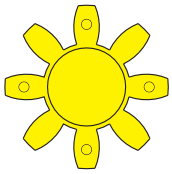
ATEX CONFORMITY

The GAS/SG coupling can be supplied in accordance to Directive 94/9/CE ATEX, which is relevant to protection apparatus and systems for use in potentially explosive spaces.
The dimensions of this coupling's version are not different from the standard version.
A mark relevant to the coupling's performances is printed on the hubs. It is necessary to consider planned tests, like described in the use and maintenance manual supplied together with each ATEX coupling.

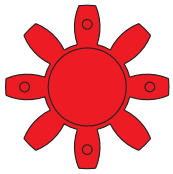
The elastomeric elements used can be:

- red elastic element in polyurethan, 98 Shore-A : II 2 G D c T6 -20 ≤ Ta ≤ +60°C X U
- yellow elastic element in polyurethan, 92 Shore-A : II 2 G D c T5 -20 ≤ Ta ≤ +80°C X U

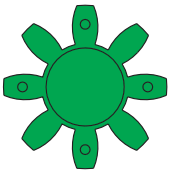
GAS/SG : backlash free jaw coupling: introduction



Elastic element **SG**
92 Sh-A



Elastic element **SG**
98 Sh-A



Elastic element **SG**
64 Sh-D

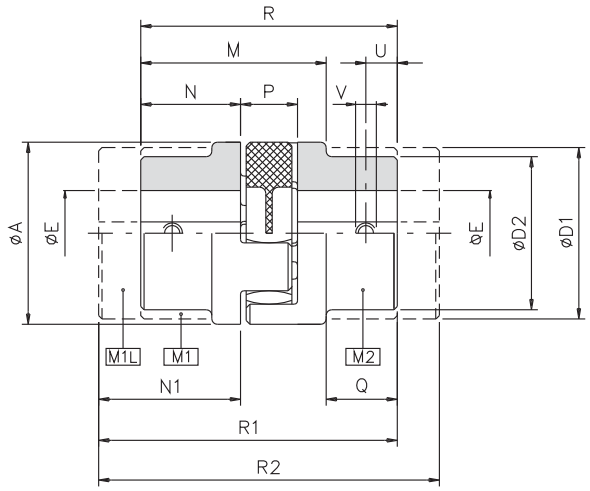
SG ELASTIC ELEMENT: TECHNICAL CHARACTERISTICS

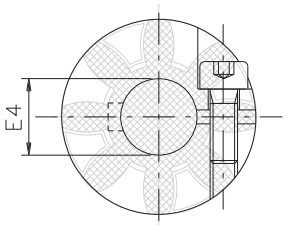
Hardness *[Shore]*	Material	Color	Permitted temperature *[°C]*		Uses
			Working	For short period	
92 Sh-A	Polyurethane	Yellow	-40 ÷ +90	-50 ÷ +120	- low and medium power - measurement and control system - common electric motors
98 Sh-A	Polyurethane	Red	-30 ÷ +90	-40 ÷ +120	- high transmission torque - actuators, screwjacks - servomotors, right angle x'boxes
64 Sh-D	Polyurethane	Green	-20 ÷ +110	-30 ÷ +120	- high torsional rigidity - tool machines - internal combustion motors

SG ELASTIC ELEMENT: PHYSICAL CHARACTERISTICS

Size	Hardness *[Sh]*	Torque *[Nm]*		Misalignments			Rigidity		
		Nom	Max	angular α*[°]*	axial X *[mm]*	radial K *[mm]*	torsional R_T *[Nm/rad •10³]*	axial R_A *[N/mm]*	radial R_R *[N/mm]*
01 (14/16)	**92 Sh-A**	7,5	15	1°	1	0,14	115	340	330
	98 Sh-A	12,5	25	0° 54'		0,09	170	510	650
	64 Sh-D	16	32	0° 48'		0,06	235	700	855
00 (19/24)	**92 Sh-A**	10	20	1°	1,2	0,10	680	1900	1200
	98 Sh-A	17	34	0° 54'		0,06	980	2300	2000
	64 Sh-D	21	42	0° 48'		0,04	1400	4280	2900
0 (24/28)	**92 Sh-A**	35	70	1°	1,4	0,14	1600	4410	1560
	98 Sh-A	60	120	0° 54'		0,10	2350	6300	2620
	64 Sh-D	75	150	0° 48'		0,07	3050	9600	3710
1 (28/38)	**92 Sh-A**	95	190	1°	1,5	0,15	2410	7060	2020
	98 Sh-A	160	320	0° 54'		0,11	3620	10900	3490
	64 Sh-D	200	400	0° 48'		0,08	4500	14500	4500
2 (38/45)	**92 Sh-A**	190	380	1°	1,8	0,16	5250	11950	2400
	98 Sh-A	325	650	0° 54'		0,12	7850	21850	4650
	64 Sh-D	405	810	0° 48'		0,09	9920	33600	6380
3 (42/55)	**92 Sh-A**	265	530	1°	2	0,18	6800	14700	2450
	98 Sh-A	450	900	0° 54'		0,15	18600	47500	5760
	64 Sh-D	560	1120	0° 48'		0,10	26400	71300	7570
4 (48/60)	**92 Sh-A**	310	620	1°	2,1	0,22	7800	18000	2850
	98 Sh-A	525	1050	0° 54'		0,16	20400	50600	6400
	64 Sh-D	655	1310	0° 48'		0,11	32400	96250	8900
5 (55/70)	**98 Sh-A**	685	1370	0° 54'	2,2	0,17	24200	61500	7150
6 (65/75)	**98 Sh-A**	1040	2080	0° 54'	2,6	0,18	38000	96500	6450

GAS/SG - backlash free jaw coupling: technical data





Clamp locking
(on request)

DIMENSIONS

Size	A	D1	D2	E H7 max	E4 H7 max	M	N	P	Q	R	T	U	V	N1	R1	R2
01 (14/16)	30	30	-	16	15	-	11	12	-	35	10	5	M4	18,5	42,5	50
00 (19/24)	40	40	32	25	20	-	25	16	16,5	66	18	10	M5	37	78	90
0 (24/28)	55	53	40	35	30	54	30	18	18,5	78	27	10	M5	50	98	118
1 (28/38)	65	63	48	40	35	62	35	20	24	90	30	15	M8	60	115	140
2 (38/45)	80	78	66	48	45	77	45	24	33	114	38	15	M8	70	139	164
3 (42/55)	95	93	75	55	50	86	50	26	38	126	46	20	M8	75	151	176
4 (48/60)	105	103	85	62	60	95	56	28	45	140	51	20	M8	80	164	188
5 (55/70)	120	118	98	74	65	108	65	30	49	160	60	20	M10	90	185	210
6 (65/75)	135	133	115	80	70	124	75	35	61	185	68	20	M10	100	210	235

TECHNICAL CHARACTERISTICS

Size	Torque *[Nm]*	Weight *[Kg]*			Inertia *[Kgm²]*			Max speed *[Rpm]*	Clamp locking	
		M1	M2	Element	M1	M2	Element		Screw	Tightening torque *[Nm]*
01 (14/16)	See page 17	0,06	-	0,005	0,00001	-	0,0000005	25000	M4	3,1
00 (19/24)		0,2	0,2	0,009	0,00005	0,00003	0,000003	19000	M5	6,2
0 (24/28)		0,4	0,3	0,020	0,00020	0,00010	0,00001	13500	M6	10,5
1 (28/38)		0,7	0,5	0,030	0,00042	0,00022	0,00002	11800	M8	25
2 (38/45)		1,3	1,1	0,060	0,00131	0,00089	0,00005	9500	M8	25
3 (42/55)		1,9	1,8	0,980	0,00292	0,00232	0,00010	8000	M10	69
4 (48/60)		2,8	2,4	0,105	0,00483	0,00383	0,00020	7100	M12	120
5 (55/70)		4,0	3,8	0,150	0,00825	0,00740	0,00030	6300	M12	120
6 (65/75)		5,9	4,6	0,200	0,01682	0,01087	0,00050	5600	M12	120

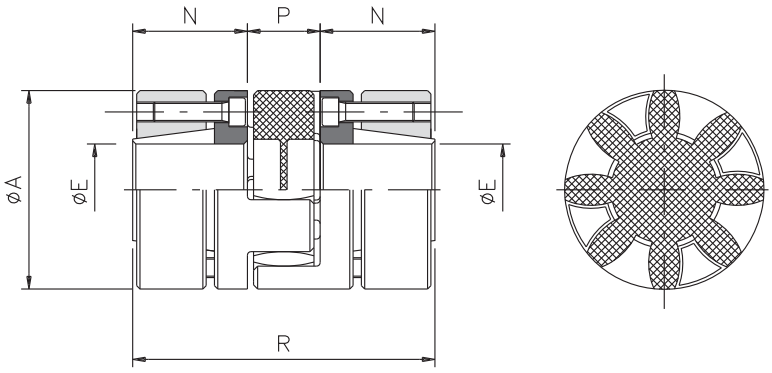
ALLOWED TORQUE WITH CLAMP LOCKING

Size	Permitted torque *[Nm]* according to the ø finished bore *[mm]*																											
	6	8	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60	65	70
01 (14/16)	6	7	8	8	9	10	10	11																				
00 (19/24)			21	21	22	22	23	23	24	25	25																	
0 (24/28)					43	44	44	45	46	47	47	49	50	51	53	54												
1 (28/38)									90	91	92	95	97	98	102	104	107	110										
2 (38/45)											109	111	113	114	118	120	123	126	130	133	135	139						
3 (42/55)														260	267	272	276	284	291	296	301	308	316	321				
4 (48/60)																			449	456	463	474	484	491	509	528		
5 (55/70)																					508	519	530	537	555	573	591	
6 (65/75)																						564	575	582	600	618	636	654

NOTE

⊗ **Technical characteristics:** the weights refer to the coupling with pilot bore; inertias refer to the coupling with maximum bore.

GAS/SG/CCE - backlash free jaw coupling with external conical locking assembly: technical data



DIMENSIONS

Size	Code	A	D	E H7		N	P	R	T
				min	max				
01 (14/16)	2QQ797nnnuuu	30	30	6	16	11	13	35	10
00 (19/24)	2QQ807nnnuuu	40	40	10	20	25	16	66	18
0 (24/28)	2QQ817nnnuuu	55	55	15	28	30	18	78	27
1 (28/38)	2QQ827nnnuuu	65	65	19	38	35	20	90	30
2 (38/45)	2QQ837nnnuuu	80	80	20	48	45	24	114	38
3 (42/55)	2QQ847nnnuuu	95	95	28	55	50	26	126	46
4 (48/60)	2QQ857nnnuuu	105	105	35	62	56	28	140	51
5 (55/70)	2QQ867nnnuuu	120	120	35	70	65	30	160	60
6 (65/75)	2QQ877nnnuuu	135	135	40	75	75	35	185	68

TECHNICAL CHARACTERISTICS

Size	Weight *[Kg]*		Inertia *[Kgm²]*		Max speed *[Rpm]*	Screw UNI 5931	Tightening screw torque *[Nm]*
	M1	Element	M1	Element			
01 (14/16)	0,06	0,005	0,00001	0,0000005	25000	n°4 x M2,5	0,75
00 (19/24)	0,2	0,009	0,00005	0,000003	19000	n°6 x M4	3
0 (24/28)	0,4	0,020	0,00020	0,00001	13500	n°4 x M5	6
1 (28/38)	0,7	0,030	0,00042	0,00002	11800	n°8 x M5	6
2 (38/45)	1,3	0,060	0,00131	0,00005	9500	n°8 x M6	10
3 (42/55)	1,9	0,980	0,00292	0,00010	8000	n°4 x M8	35
4 (48/60)	2,8	0,105	0,00483	0,00020	7100	n°4 x M8	35
5 (55/70)	4,0	0,150	0,00825	0,00030	6300	n°4 x M10	69
6 (65/75)	5,9	0,200	0,01682	0,00050	5600	n°4 x M12	120

ALLOWED TORQUE FOR LOCKING BY EXTERNAL CONICAL LOCKING ASSEMBLIES

Grand.	Permitted torqued *[Nm]* according to the ø finished bore *[mm]*																										
	6	10	11	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60	65	70	80
01 (14/16)	7	12	13	17	18	20																						
00 (19/24)		48	53	67	72	77	81	86	91	96																		
0 (24/28)					77	82	88	93	98	103	113	124	129	144														
1 (28/38)								186	196	206	227	247	258	289	309	330	361	392										
2 (38/45)										291	320	349	364	408	437	466	510	553	582	612	655	699						
3 (42/55)														345	584	623	681	740	779	818	876	934	973	1071				
4 (48/60)																	681	740	779	818	876	934	973	1071	1168			
5 (55/70)																	1091	1184	1247	1309	1402	1496	1558	1714	1870	2026	2182	
6 (65/75)																			1852	1944	2083	2222	2315	2546	2778	3009	3241	

NOTES

- **Code:** Item available only with finished bore. When ordering, please indicate on position **"nnn"** the finished bore of one hub, and on position **"uuu"** the finished bore of the second hub. *Example: GAS/SG/CCE size 1 finished bore* ***ø28-36*** → *2QQ827**028036**.*
- **Technical characteristics:** the weights refer to the coupling with minimum bore; inertias refer to the coupling with maximum bore.

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GAS - jaw coupling: introduction

- Made in steel fully turned with standard phosphating treatment.
- Several elastomer hardnesses available.
- High compensation of misalignments.
- Damping of vibrations.
- Statically balanced.
- Modularity of the components, with different assembly versions.

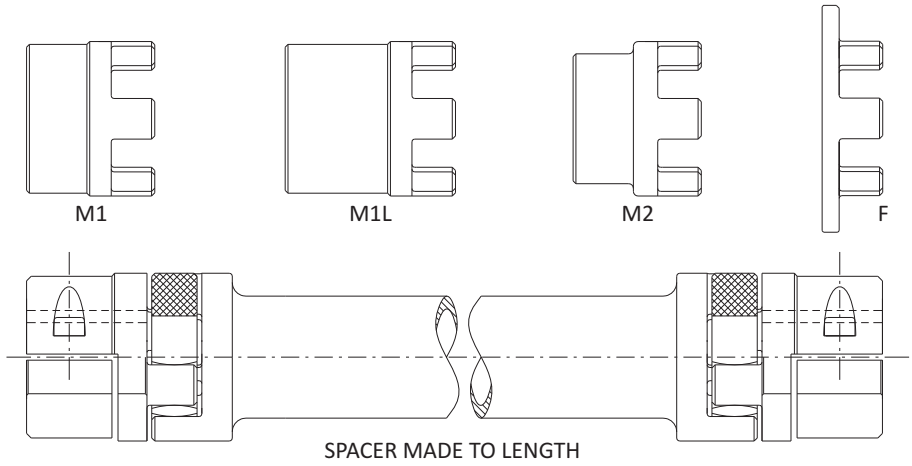
ON REQUEST

- Conformity to directive ATEX possible.
- Specific treatments or version fully in stainless steel, aluminium, possible.
- Manufacturing made to length and customizations for specific needs.
- Connection to TORQUE LIMITERS range possible.

The coupling GAS/SG is an elastic coupling with compact dimensions composed of two hubs made in steel UNI EN10083/98, fully turned with low roughness and one elastomer.
The hub's tooth profile is designed in order to allow the elastomeric element to work only by compression and not in shear, allowing for long life of the coupling in high reversal on load applications.

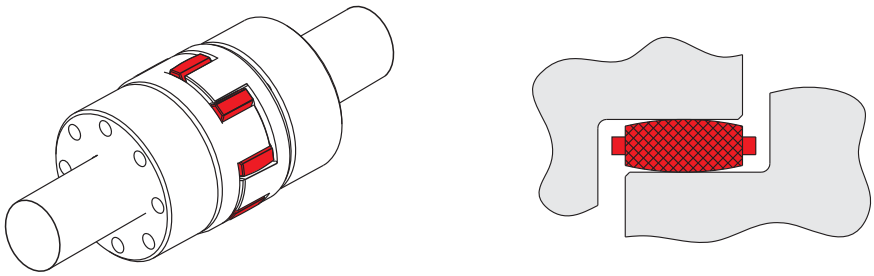
The GAS base series are available in several versions to allow an assembly to suit the application.

- M1 hub base hub for any kind of connection
- M1L extended hub to connect long shafts
- M2 hub with reduced external diameter for assembly in reduced spaces.
- F flange for connection shafts-flange
- Customized spacer for connection of distant shafts

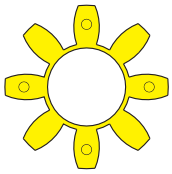


DESCRIPTION OF THE ELASTIC ELEMENT

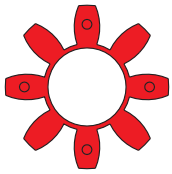
The fundamental item of this coupling is the elastomeric element or elastomer, made in different grades of hardness for different needs and applications. The elastomer is manufactured from elements to resist ageing, scoring, fatigue, hydrolysis and UV radiations, promoting long life operation, resisting main chemical agents, like ozone, oils, greases and hydrocarbons.



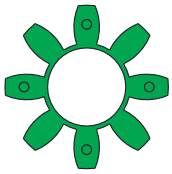
GAS - jaw coupling: introduction



Elastic element
92 Sh-A



Elastic element
98 Sh-A



Elastic element
64 Sh-D

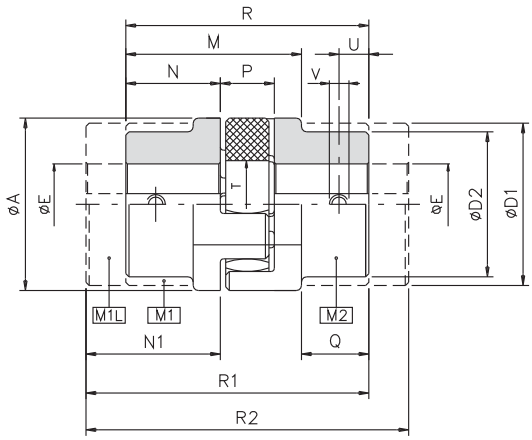
ELASTIC ELEMENT: TECHNICAL CHARACTERISTICS

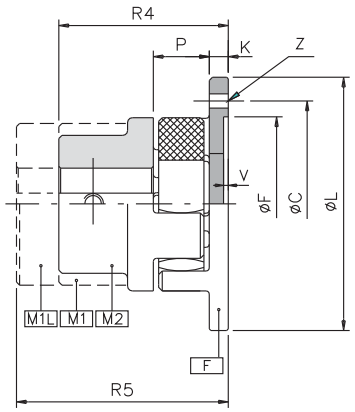
Hardness *[Shore]*	Material	Color	Allowed temperature *[°C]*		Uses
			Working	For short periods	
92 Sh-A	Polyurethane	Yellow	-40 ÷ +90	-50 ÷ +120	- low and medium power - systems with frequent stop, starts
98 Sh-A	Thermoplastic	Red	-40 ÷ +125	-50 ÷ +150	- high transmission torque - high temperature range
64 Sh-D	Polyurethane	Green	-20 ÷ +110	-30 ÷ +120	- high torsional rigidity - internal combustion motors

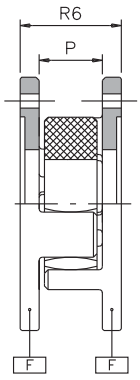
ELASTIC ELEMENT: PHYSICAL CHARACTERISTICS

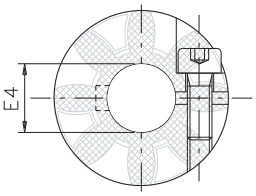
Size	Hardness *[Sh]*	Torque *[Nm]*			Misalignments			Rigidity R_T *[Nm/rad•10³]*			
		Nom	Max	Alternate motion	angular α*[°]*	axial X *[mm]*	radial K *[mm]*	25% nom torque	50% nom torque	75% nom torque	100% nom torque
00 (19/24)	**92 Sh-A**	10	20	2,6	1° 18'	1,0	0,4	0,62	0,73	0,93	1,18
	98 Sh-A	17	34	4,4				0,92	1,14	1,33	1,49
	64 Sh-D	21	42	5,5				1,97	3,33	4,40	5,37
0 (24/28)	**92 Sh-A**	35	70	9	1° 18'	1,0	0,8	2,44	2,71	3,66	4,43
	98 Sh-A	60	120	16				3,64	4,74	5,47	5,92
	64 Sh-D	75	150	19,5				5,50	9,35	12,40	15,10
1 (28/38)	**92 Sh-A**	95	190	25	1° 18'	1,2	1,0	4,10	5,73	6,62	7,65
	98 Sh-A	160	320	42				6,08	7,82	8,88	10,68
	64 Sh-D	200	400	52				10,10	17,00	22,55	27,50
2 (38/45)	**92 Sh-A**	190	380	49	1° 18'	1,4	1,0	8,69	10,75	12,55	14,57
	98 Sh-A	325	650	85				10,95	14,13	18,25	21,90
	64 Sh-D	405	810	105				25,75	43,50	57,50	70,10
3 (42/55)	**92 Sh-A**	265	530	69	1° 18'	1,6	1,0	11,52	14,66	17,27	21,50
	98 Sh-A	450	900	117				16,34	21,41	25,17	30,29
	64 Sh-D	560	1120	145				29,30	49,50	65,45	79,85
4 (48/60)	**92 Sh-A**	310	620	81	1° 18'	1,7	1,4	11,85	18,72	21,34	24,52
	98 Sh-A	525	1050	137				17,97	24,39	27,68	34,14
	64 Sh-D	655	1310	170				35,10	59,20	78,30	95,50
5 (55/70)	**92 Sh-A**	410	820	105	1° 18'	1,8	1,4	16,63	26,27	29,94	34,42
	98 Sh-A	685	1370	178				24,88	33,77	38,33	47,27
	64 Sh-D	825	1650	215				39,65	66,90	88,55	107,90
6 (65/75)	**92 Sh-A**	625	1250	163	1° 18'	2,0	1,4	27,14	38,00	40,71	50,67
	98 Sh-A	940	1880	245				36,00	48,01	55,55	66,47
	64 Sh-D	1175	2350	305				55,54	93,65	124,00	150,10
7 (75/90)	**92 Sh-A**	975	1950	254	1° 18'	2,5	1,8	54,17	70,10	89,38	103,63
	98 Sh-A	1465	2930	381				72,52	92,30	112,81	123,07
	64 Sh-D	2410	4820	625				91,21	153,87	203,51	249,12
8 (90/100)	**92 Sh-A**	2400	4800	624	1° 18'	2,8	1,8	88,99	113,90	164,29	177,98
	98 Sh-A	3600	7200	936				127,47	172,99	201,82	230,65
	64 Sh-D	4500	9000	1170				246,85	415,53	550,13	672,87

GAS - jaw coupling: technical data









Clamp locking
(on request)

DIMENSIONS

Size	A	D1	D2	E H7 max	E4 H7 max	M	N	P	Q	R	T	U	V	N1	R1	R2	C	F H7	G	L	K	R4	R5	Z	R6
00 (19/24)	40	40	32	25	20	-	25	16	16,5	66	18	10	M5	37	78	90	50	40	1,5	58	8	49	61	n°5 x ø4,5	32
0 (24/28)	55	53	40	35	30	54	30	18	18,5	78	27	10	M5	50	98	118	65	55	1,5	74	8	56	76	n°5 x ø4,5	34
1 (28/38)	65	63	48	40	35	62	35	20	24	90	30	15	M8	60	115	140	80	65	1,5	92	10	65	90	n°6 x ø6,6	40
2 (38/45)	80	78	66	48	45	77	45	24	33	114	38	15	M8	70	139	164	95	80	1,5	107	10	79	104	n°6 x ø6,6	44
3 (42/55)	95	93	75	55	50	86	50	26	38	126	46	20	M8	75	151	176	115	95	2	132	12	88	113	n°6 x ø9	50
4 (48/60)	105	103	85	62	60	95	56	28	45	140	51	20	M8	80	164	188	125	105	2	142	12	96	122	n°8 x ø9	52
5 (55/70)	120	118	98	74	65	108	65	30	49	160	60	20	M10	90	185	210	145	120	2	164	16	111	136	n°8 x ø11	62
6 (65/75)	135	133	115	80	70	124	75	35	61	185	68	20	M10	100	210	235	160	135	2	179	16	126	153	n°10 x ø11	67
7 (75/90)	160	158	135	95	-	141	85	40	69	210	80	25	M10	110	235	260	185	160	2,5	208	19	144	169	n°10 x ø14	78
8 (90/100)	200	180	160	110	-	164	100	45	81	245	100	30	M12	125	270	295	225	200	3	248	20	165	190	n°12 x ø14	85

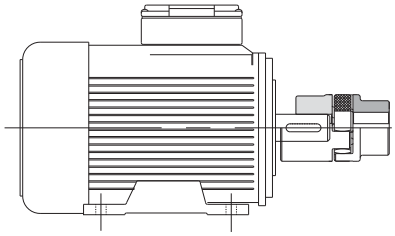
TECHNICAL CHARACTERISTICS

Size	Torque *[Nm]*	Weight *[Kg]*				Inertia *[Kgm²]*				Max speed *[Rpm]*	Clamp locking	
		M1	M2	F	Element	M1	M2	F	Element		Screw	Tightening torque *[Nm]*
00 (19/24)	see page 21	0,2	0,2	0,1	0,009	0,00005	0,00003	0,00007	0,000003	19000	M5	6,2
0 (24/28)		0,4	0,3	0,3	0,020	0,00020	0,00010	0,00014	0,00001	13500	M6	10,5
1 (28/38)		0,7	0,5	0,6	0,030	0,00042	0,00022	0,00044	0,00002	11800	M8	25
2 (38/45)		1,3	1,1	0,9	0,060	0,00131	0,00089	0,00121	0,00005	9500	M8	25
3 (42/55)		1,9	1,8	1,6	0,980	0,00292	0,00232	0,00246	0,00010	8000	M10	69
4 (48/60)		2,8	2,4	1,8	0,105	0,00483	0,00383	0,00302	0,00020	7100	M12	120
5 (55/70)		4,0	3,8	3,0	0,150	0,00825	0,00740	0,00603	0,00030	6300	M12	120
6 (65/75)		5,9	4,6	3,7	0,200	0,01682	0,01087	0,00912	0,00050	5600	M12	120
7 (75/90)		9,1	7,2	5,2	0,380	0,03933	0,02333	0,02110	0,00200	4750	-	-
8 (90/100)		17,0	12,5	8,3	0,650	0,10936	0,06036	0,07019	0,00400	3750	-	-

PERMITTED TORQUE WITH CLAMP LOCKING

Size	Permitted torque *[Nm]* according to the ø finished bore *[mm]*																												
	6	8	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60	65	70
00 (19/24)			21	21	22	22	23	23	24	25	25																	
0 (24/28)					43	44	44	45	46	47	47	49	50	51	53	54												
1 (28/38)									90	91	92	95	97	98	102	104	107	110										
2 (38/45)											109	111	113	114	118	120	123	126	130	133	135	139						
3 (42/55)														260	267	272	276	284	291	296	301	308	316	321				
4 (48/60)																			449	456	463	474	484	491	509	528		
5 (55/70)																					508	519	530	537	555	573	591	
6 (65/75)																						564	575	582	600	618	636	654

GAS and GAS/SG - jaw coupling: resuming



MOTORS

Electric motor		750 rpm					1000 rpm					1500 rpm					3000 rpm				
Size	Shaft	P (Kw)	C (Nm)	GAS			P (Kw)	C (Nm)	GAS			P (Kw)	C (Nm)	GAS			P (Kw)	C (Nm)	GAS		
				92 Sh-A	98 Sh-A	64 Sh-D			92 Sh-A	98 Sh-A	64 Sh-D			92 Sh-A	98 Sh-A	64 Sh-D			92 Sh-A	98 Sh-A	64 Sh-D
63	ø11x23	-	-	-	-	-	0,06	0,7	01	01	01	0,12	0,88	01	01	01	0,18	0,62	01	01	01
		-	-	-	-	-	0,09	1,1				0,18	1,30				0,25	0,86			
71	ø14x30	0,09	1,4	01	01	01	0,18	2,0	01	01	01	0,25	1,80	01	01	01	0,37	1,30	01	01	01
		0,12	1,8				0,25	2,8				0,37	2,50				0,55	1,90			
80	ø19x40	0,18	2,5	00	00	00	0,37	3,9	00	00	00	0,55	3,70	00	00	00	0,75	2,50	00	00	00
		0,25	3,5				0,55	5,8				0,75	5,10				1,10	3,70			
90 S	ø24x50	0,37	5,3	00	00	00	0,75	8,0	00	00	00	1,10	7,50	00	00	00	1,50	5,00	00	00	00
90 L	ø24x50	0,55	7,9	00	00	00	1,10	12	0	0	0	1,50	10	00	00	00	2,20	7,40	00	00	00
100 L	ø28x60	0,75	11	0	0	0	1,50	15	0	0	0	2,20	15	0	0	0	3,00	9,80	0	0	0
		1,10	16									3,00	20								
112 M	ø28x60	1,50	21	0	0	0	2,20	22	0	0	0	4,00	27	0	0	0	4,00	13	0	0	0
132 S	ø38x80	2,20	30	1	1	1	3,00	30	1	1	1	5,50	36	1	1	1	5,50	18	1	1	1
																	7,50	25			
132 M	ø38x80	3,00	40	1	1	1	4,00	40	1	1	1	7,50	49	1	1	1	-	-	-	-	-
							5,50	55									-	-	-	-	-
160 M	ø42x110	4,00	54	2	2	2	7,50	75	2	2	2	11,00	72	2	2	2	11,00	35	2	2	2
		5,50	74														15,00	49			
160 L	ø42x110	7,50	100	2	2	2	11,00	109	2	2	2	15,00	98	2	2	2	18,50	60	2	2	2
180 M	ø48x110	-	-	-	-	-	-	-	-	-	-	18,50	121	2	2	2	22	71	2	2	2
180 L	ø48x110	11,00	145	2	2	2	15,00	148	3	2	2	22	144	2	2	2	-	-	-	-	-
200 L	ø55x110	15,00	198	3	3	3	18,50	181	3	3	3	30	196	3	3	3	30	97	3	3	3
							22,00	215									37	120			
225 S	ø55x110 ø60x140	18,50	244	4	3	3	-	-	-	-	-	37	240	4	3	3	-	-	-	-	-
				4	4	4								4	4	4					
225 M	ø55x110 ø60x140	22	290	4	3	3	30	293	4	3	3	45	292	4	3	3	45	145	3	3	3
				4	4	4			4	4	4			4	4	4			3	4	4
250 M	ø60x140 ø65x140	30	392	6	4	4	37	361	5	4	4	55	356	5	4	4	55	177	4	4	4
				6	5	5			5	5	5			5	5	5			4	5	5
280 S	ø65x140 ø75x140	37	483	6	5	5	45	438	6	5	5	75	484	6	5	5	75	241	5	5	5
280 M	ø65x140 ø75x140	45	587	6	5	5	55	535	6	5	5	90	581	6	5	5	90	289	5	5	5
				6	6	6			6	6	6			6	6	6			5	6	6
315 S	ø65x140 ø80x170	55	712	7	6	6	75	727	7	6	5	110	707	7	6	5	110	353	5	5	5
									7	6	6			7	6	6			5	6	6
315 M	ø65x140 ø80x170	75	971	8	7	7	90	873	7	6	5	132	849	7	6	6	132	423	6	5	5
									7	6	6								6	6	6
315 L	ø65x140 ø80x170 ø85x170	90	1170	8	7	7	110	1070	8	7	7	160	1030	8	7	7	160	513	6	5	5
		110	1420	8	8	8	132	1280	8	7	7	200	1290				200	641	7	6	6
		132	1710	8	8	8	160	1550	8	8	7	-	-	-	-	-	-	-	-	-	-
315	ø65x140 ø85x170	160	2070	8	8	8	200	1930	8	8	7	250	1600	8	8	7	250	802	7	6	6
		200	2580	-	8	8	250	2410	8	8	8	315	2020				315	1010	8	7	6
355	ø75x140 ø95x170	-	-	-	-	-	-	-	-	-	-	355	2280	-	8	8	355	1140	8	7	7
		250	3220	-	8	8	315	3040	-	8	8	400	2570	-	8	8	400	1280	8	7	7
		315	4060	-	-	8	400	3850	-	-	8	500	3210	-	8	8	500	1600	8	8	7
400	ø80x170 ø110x210	355	4570	-	-	-	450	4330	-	-	-	560	3580	-	-	8	560	1790	8	8	7
		400	5150	-	-	-	500	4810	-	-	-	630	4030	-	-	8	630	2020			

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GAS e GAS/SG - jaw coupling: resuming

DIMENSIONING

For pre-selection of the coupling's size you can use the generic formula indicated on page 5.
Having established the coupling's size to be used, it is possible to make other checks considering further parameters:

$$C_{nom} > C_{mot} \cdot f_T \cdot f_R$$

Where:
- C_{nom} = theoric nominal torque of the coupling *[Nm]*
- C_{mot} = nominal torque motor side *[Nm]*
- C_{max} = maximum torque of the coupling *[Nm]*
- C_{SU} = static torque user side *[Nm]*
- C_{SM} = static torque motor side *[Nm]*
- f_A = starting frequency factor
- f_R = rigidity factor
- f_T = thermic factor
- J_{mot} = inertia motor side *[Kgm²]*
- J_{uti} = inertia user side *[Kgm²]*
- K = shock factor

Considering the static torque:

$$C_{max} > C_{SM} \cdot \frac{J_{uti}}{J_{uti}+J_{mot}} \cdot K \cdot f_T \cdot f_A + C_{mot} \cdot f_T \cdot f_R$$

$$C_{max} > C_{SU} \cdot \frac{J_{mot}}{J_{uti}+J_{mot}} \cdot K \cdot f_T \cdot f_A + C_{mot} \cdot f_T \cdot f_R$$

In case of alternate motion,

$$C_{nom} > \frac{1}{M} \cdot C_{alt} \cdot f_F \cdot f_T \cdot f_R$$

Where:
- C_{alt} = alternate system torque *[Nm]*
- C_{nom} = theoric nominal torque of the coupling *[Nm]*
- f_F = resonance factor
- f_R = rigidity factor
- f_T = thermic factor
- M = coefficient of material

Coefficient of material (M)	
0,25	aluminium
0,35	steel

Resonance factor (f_F)	
1	frequency < 10
$\sqrt{\frac{f}{10}}$	frequency > 10

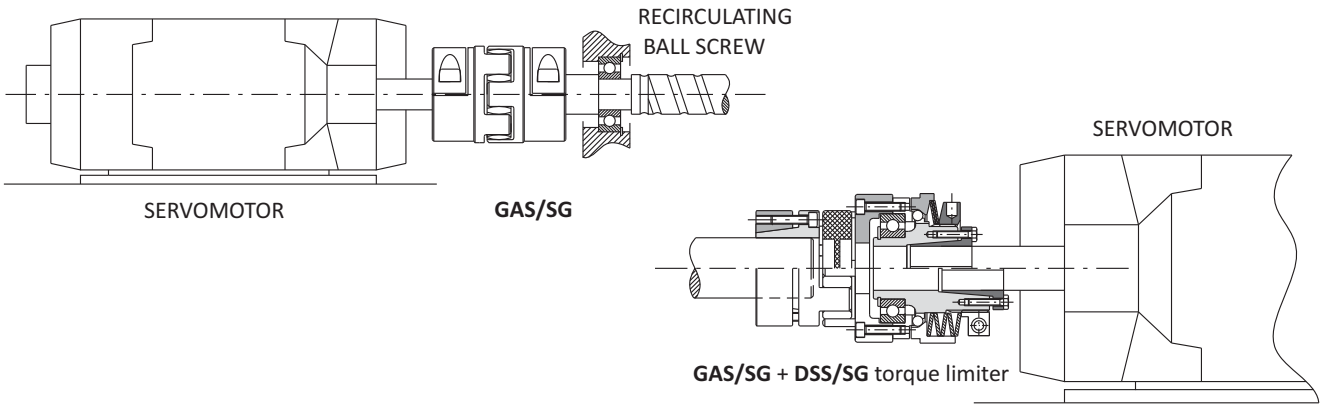
Rigidity factor (f_R)	
2÷5	positioning system
3÷8	tool machines
>10	turn indicators

Shock factor (K)	
1	light shock
1,4	medium shock
1,8	hard shock

Thermic factor (f_T)	
1	-30 ÷ +30 °C
1,2	> +30 ÷ +40 °C
1,4	> +40 ÷ +60 °C
1,8	> +60 ÷ +80 °C

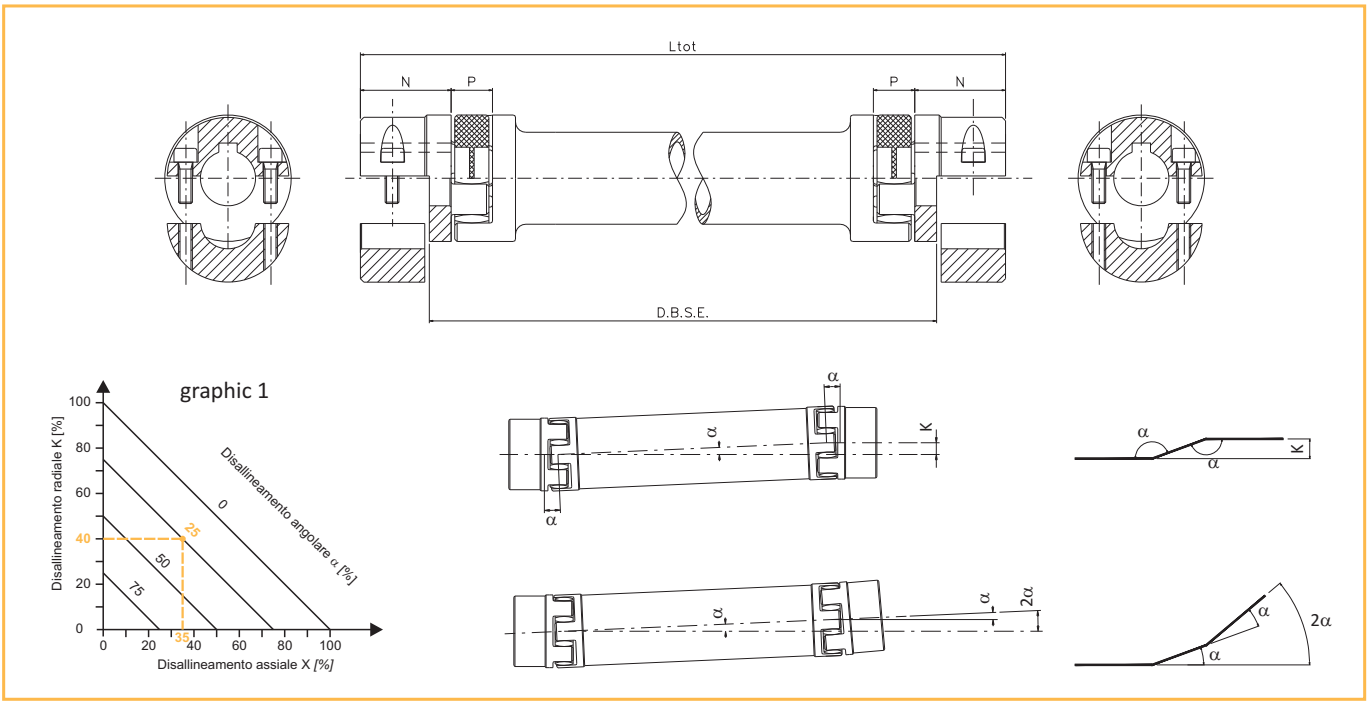
Starting frequency factor (f_A)	
1	0 ÷ 100 starting each hour
1,2	> 100 ÷ 200 starting each hour
1,4	> 200 ÷ 400 starting each hour
1,6	> 400 ÷ 800 starting each hour
1,8	> 800 ÷ 1600 starting each hour

APPLICATION EXAMPLE



GAS - GAS/SG - jaw coupling: resuming

Having completed and checked the coupling choice, in accordance to the torque to be transmitted, it is necessary now to take into consideration the necessary flexibility comparing the misalignments allowed from the kind of coupling selected, with the real ones, seen by the shafts to be connected.
It is important to consider that misalignments, axial, angular and parallel, must be considered paired together, as inversely proportional (one reduces when the other increases). If all types of misalignments occur. It is necessary that the sum in percentage respect to the maximum value doesn't exceed the 100%., according to “graphic 1”.



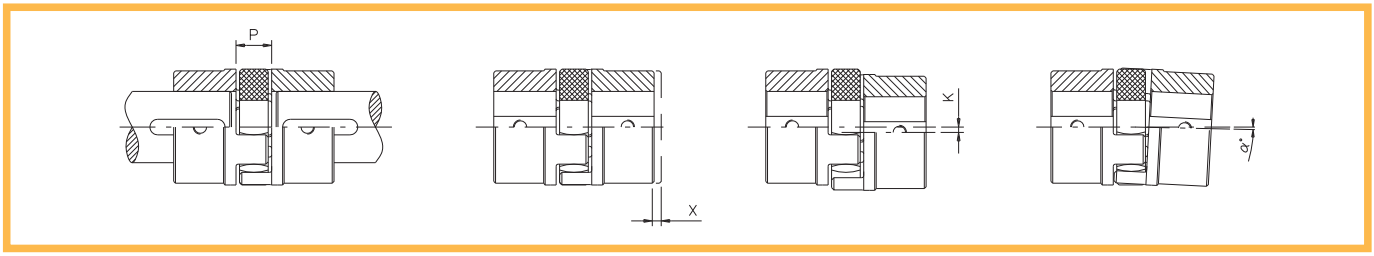
$$K = [\ L_{tot} - (2 \cdot N) - P\ ] \cdot Tg\ \alpha$$

Dove:

- L_{tot} = total length [mm]
- K = radial misalignment [mm]
- N = useful length of an half-hub [mm]
- P = useful space of the elastomeric element [mm]
- α = angular misalignment [°]

FITTING

Particular procedures to assemble this coupling are not required. It can be assembled both vertically and horizontally.

1) Carry out a radial and axial alignment as precisely as possible, to have maximum absorption of possible misalignments and life of the coupling.
2) Assemble the two half-hubs on the two shafts. Check that the external parts of the two shafts do not exceed the relevant half-hub's surface (quote “N”) and fix this one to the shaft with its relevant fixing system.
3) Assemble the elastomeric element on one half-hub and close the other inserting the relevant teeths into the elastomeric element, being careful to respect the distance of the two half-hubs indicated on the catalogue, quote “P”.

In case of locking by clamp locking and locking assemblies, tighten the relevant screws progressively up to the tightening torque indicated on the catalogue, respecting a cross sequence.