

MSA

DAMPER



CATALOGO COMPONENTI ANTIVIBRANTI

ANTI-VIBRATION COMPONENTS CATALOGUE

Catalogo componenti antivibranti

Anti-vibration components catalogue

MSA Damper è un'azienda italiana specializzata nella progettazione e produzione di ammortizzatori e componenti gomma-metallo ad alte prestazioni, destinati al settore ferroviario.

Nata nel 2019 dal consolidamento del know-how venticinquennale di Mediterr Shock Absorbers e Hasta Magi Tecnologie, MSA Damper ha sede ad Asti (Italia), in uno stabilimento moderno dotato delle più recenti tecnologie di produzione e controllo qualità.

MSA Damper is an Italian company specialized in the design and production of high-performance rubber-to-metal shock absorbers and components for the railway sector.

Born in 2019 from the consolidation of the twenty-five-year know-how of Mediterr Shock Absorbers and Hasta Magi Tecnologie, MSA Damper is headquartered in Asti (Italy), in a modern plant equipped with the latest production and quality control technologies.



Con questo catalogo presentiamo la nostra gamma di soluzioni gomma-metallo progettate per le esigenze dell'industria ferroviaria moderna.

With this catalogue we present our range of rubber-to-metal solutions designed for the needs of the modern railway industry.

Il reparto gomma-metallo è perfettamente integrato nella struttura produttiva e utilizza tecnologie di stampaggio a iniezione e compressione (da 60 a 400 tonnellate), garantendo massima flessibilità e alti standard qualitativi. L'ampia gamma di prodotti include: supporti antivibranti, silentblock, boccole, elementi elastici, snodi per bracci di collegamento, molle coniche, molle tipo "gorto" ecc...

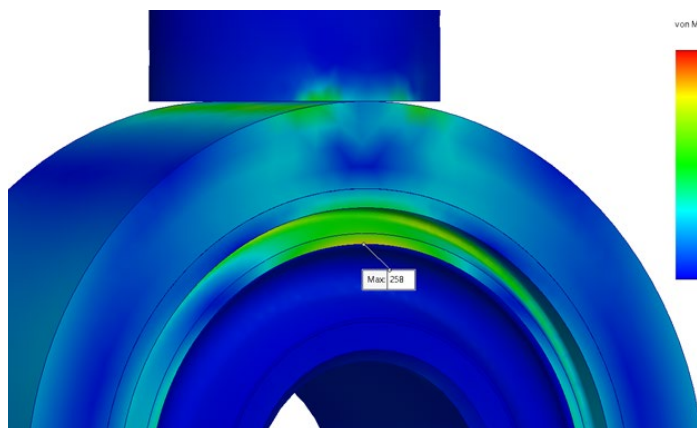
The rubber-metal department is perfectly integrated into the production structure and uses injection and compression molding technologies (from 60 to 400 tons), ensuring maximum flexibility and high quality standards. The wide range of products includes: anti-vibration supports, silentblocks, bushings, elastic elements, joints for connecting arms, conical springs, "gorto" type springs, etc.



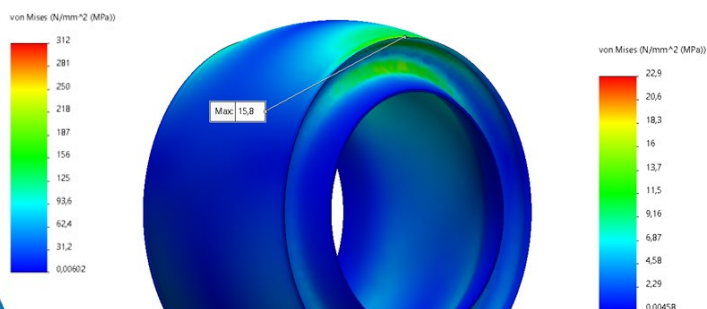
I nostri componenti trovano applicazione in un'ampia varietà di mezzi ferroviari: treni regionali e alta velocità; tram urbani e interurbani; metropolitane e monorotaie; convogli merci e veicoli speciali.

Our components are used in a wide variety of railway vehicles: regional and high-speed trains; urban and interurban trams; subways and monorails; freight trains and special vehicles.

Tutti i nostri prodotti sono validati attraverso test interni: prove statiche su macchina di collaudo per la caratterizzazione meccanica su specifica cliente e test a fatica. Inoltre, le simulazioni FEM fanno parte del processo di progettazione di componenti personalizzati non standard.



All our products are validated through in-house testing: static tests on a testing machine for mechanical characterization based on customer specifications and fatigue tests. Furthermore, FEM simulations are part of the design process for non-standard custom components.



MSA Damper è certificata secondo gli standard internazionali ISO 9001, ISO 14001, ISO 45001, ISO/TS 22163, EN ISO 3834-2, EN 15085-2, UNI/PdR 125.

Inoltre, ha dimostrato negli anni un impegno significativo verso la sostenibilità, come confermato dal suo inserimento nel 15% delle migliori aziende sostenibili nel 2025, secondo la valutazione di "EcoVadis".

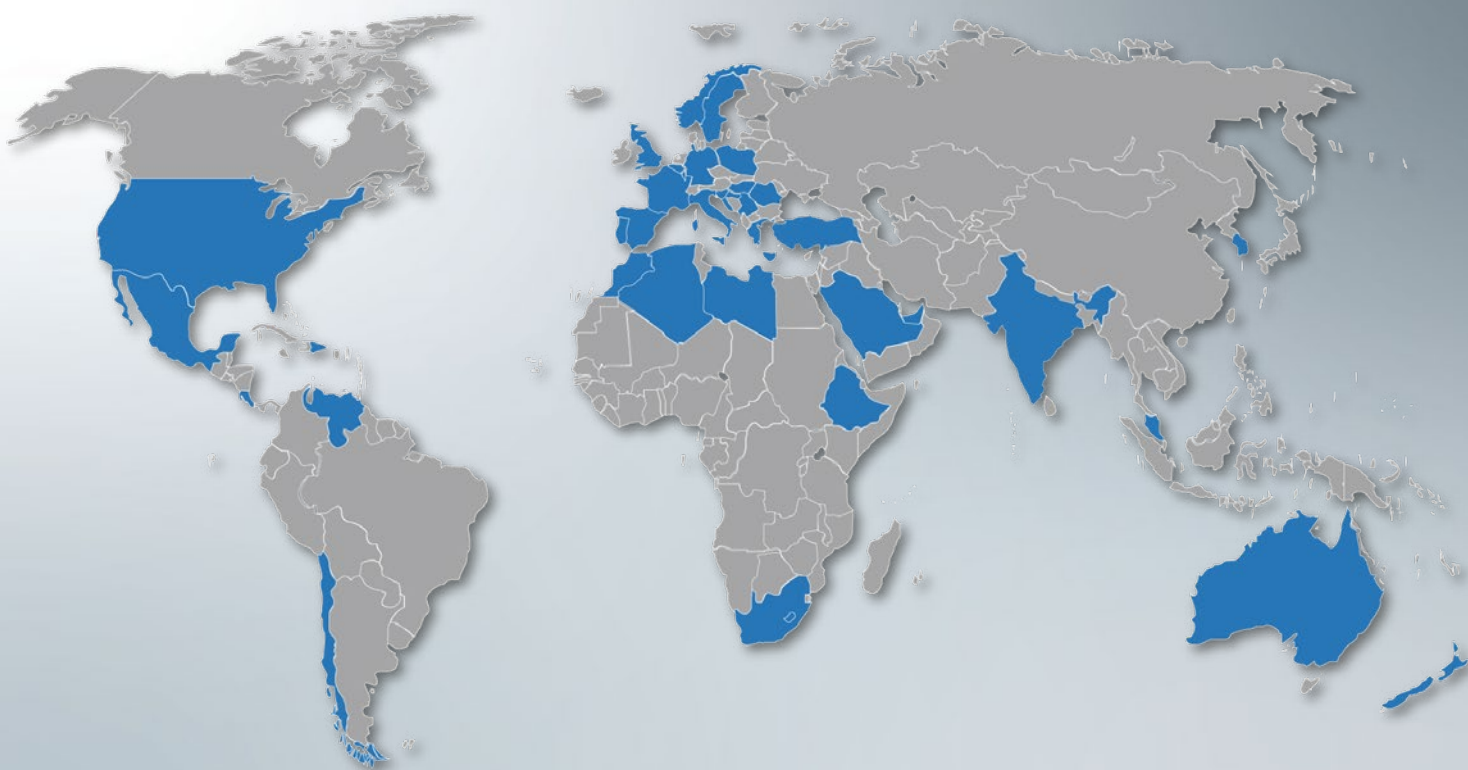
MSA Damper is certified according to the international standards ISO 9001, ISO 14001, ISO 45001, ISO/TS 22163, EN ISO 3834-2, EN 15085-2, UNI/PdR 125.

Furthermore, it has demonstrated a significant commitment to sustainability over the years, as confirmed by its inclusion in the top 15% of sustainable companies in 2025, according to the "EcoVadis" assessment.



Il nostro network di distribuzione.

Our distribution networks.



I nostri principali clienti.

Our main clients.





CATALOGO
COMPONENTI
ANTIVIBRANTI

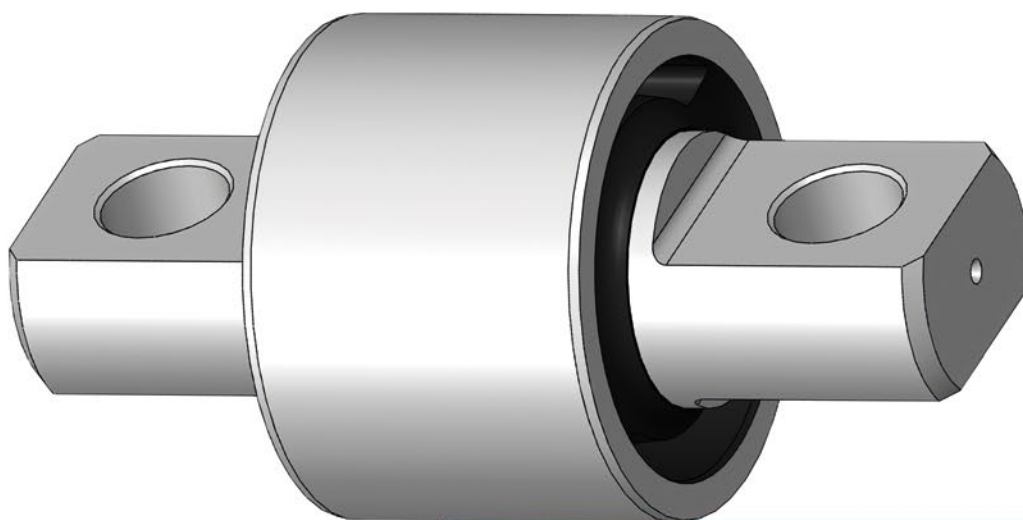
ANTI-VIBRATION
COMPONENTS
CATALOGUE

Gli snodi elastici sono componenti strutturali costituiti da un perno interno e un anello esterno. Il perno interno è legato all'anello esterno mediante elastomero vulcanizzato. Fondamentali nei sistemi di sospensione ferroviari, svolgono diverse funzioni chiave:

- Smorzamento di vibrazioni e rumori, per migliorare il comfort a bordo;
- Gestione di carichi multidirezionali (radiali, assiali, torsionali, conici) con risposta elastica calibrata;
- Isolamento elettrico, grazie a mescole speciali che impediscono il passaggio di corrente;
- Prestazioni costanti in condizioni operative variabili, come escursioni termiche, umidità elevata e cicli di carico intensi.

Elastic joints are structural components consisting of an internal pin and an external ring. The internal pin is bonded to the external ring by means of vulcanized elastomer. Fundamental in railway suspension systems, they perform several key functions:

- Damping of vibrations and noise, to improve on-board comfort;
- Management of multidirectional loads (radial, axial, torsional, conical) with calibrated elastic response;
- Electrical insulation, thanks to special compounds that prevent the passage of current;
- Consistent performance in variable operating conditions, such as temperature excursions, high humidity and intense load cycles.



SECTION

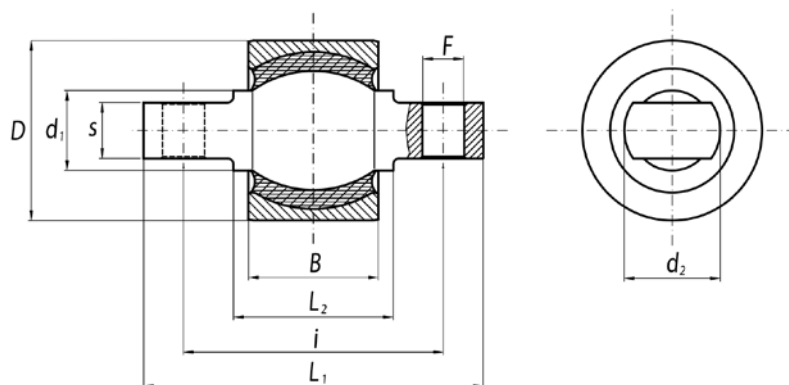
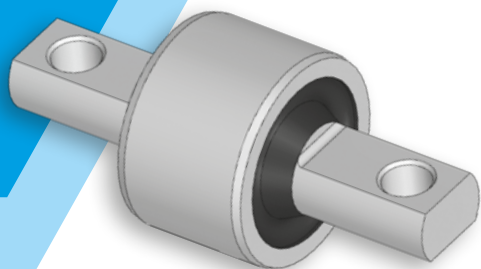
SNODI JOINTS

SPHERICAL JOINTS
CYLINDRICAL JOINTS
SLOTTED JOINTS

SNODI SFERICI 08
SNODI CILINDRICI 12
SNODI ASOLATI 13

SNODI SFERICI

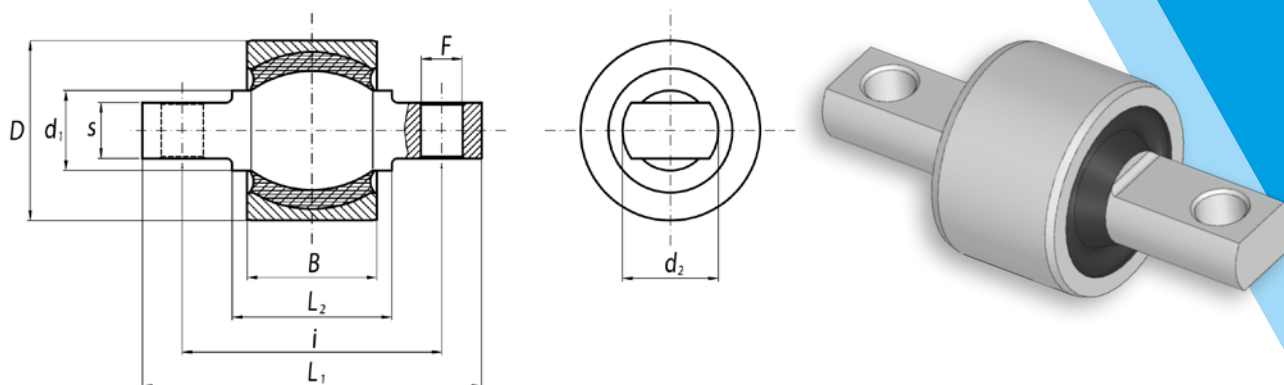
SPHERICAL JOINTS



Cod. Articolo Item Code	D [mm]	i [mm]	B [mm]	F [mm]	s [mm]	d ₁ [mm]	d ₂ [mm]	L ₁ [mm]	L ₂ [mm]
H3G02351 33258	Ø42	108	40	Ø14	15	Ø22	Ø28	135	50
H3G02369 33547	Ø42	108	40	Ø14	15	Ø22	Ø28	135	50
H3G01921 30724	Ø42	108	40	Ø14	16	Ø22	Ø28	135	50
H3G01918 30699	Ø45	75	35	Ø13	12	Ø24	Ø30	105	40
33428 H3G02366	Ø52	70	35	Ø13	14	Ø30	Ø30	105	35
H3G01928 30880	Ø52,5	140	40	Ø17	20	Ø27	Ø34	175	92
H3G01894 30310	Ø60	90	40	Ø14	22	Ø30	Ø40	126	50
H3G01382 10461	Ø60	90	40	Ø16,5	22	Ø30	Ø40	126	50
H3G00637 13707	Ø60	90	40	Ø17	16	Ø30	Ø40	126	50
H3G02172 32407	Ø60	90	40	Ø17	16	Ø30	Ø40	126	50
H3G00208 10486	Ø60	90	40	Ø17	22	Ø30	Ø40	126	50
H3G01948 31047	Ø60	90	40	Ø17	22	Ø30	Ø40	126	50
H3G01825 22694	Ø60	90	40	Ø17	22	Ø30	Ø40	126	50
H3G01551	Ø60	90	40	Ø17	22	Ø30	Ø40	126	50
H3G00638 13708	Ø60	95	40	Ø13	16	Ø30	Ø40	135	50
H3G01679 19725	Ø60	96	40	Ø17	22	Ø30	Ø40	135	50
H3G00851 14753	Ø60	96	40	Ø18	15	Ø30	Ø40	135	50
H3G02169 32351	Ø60	96	40	Ø18	16	Ø30	Ø40	135	50
H3G01933 30860	Ø60	96	40	Ø18	20	Ø30	Ø36	135	50
H3G02352 33262	Ø60	100	40	Ø17	16	Ø30	Ø30	135	50
H3G00636 13706	Ø60	100	40	Ø17	16	Ø30	Ø40	135	50
H3G02171 32406	Ø60	100	40	Ø17	16	Ø30	Ø40	135	50
H3G00835 10670	Ø60	100	40	Ø17	22	Ø30	Ø40	135	50
H3G02234 32587	Ø60	102	40	Ø14	16	Ø26	Ø26	135	50

SNODI SFERICI

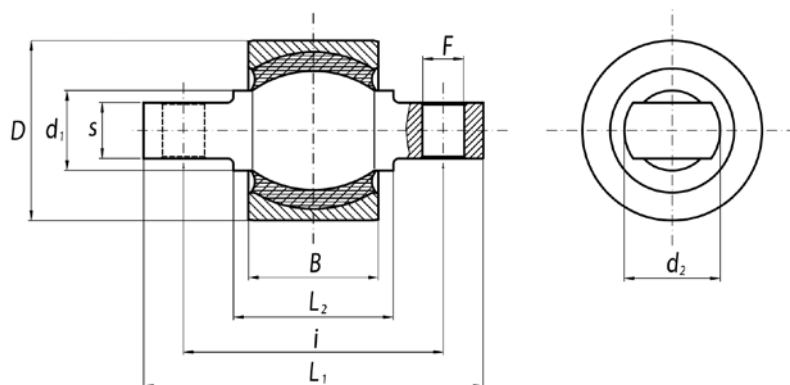
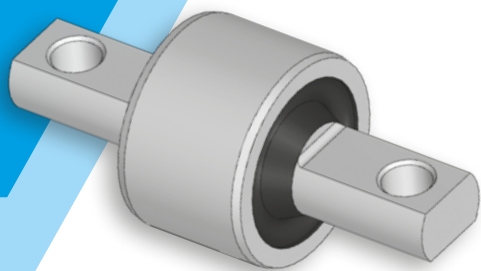
SPHERICAL JOINTS



Cod. Articolo Item Code	D [mm]	i [mm]	B [mm]	F [mm]	s [mm]	d ₁ [mm]	d ₂ [mm]	L ₁ [mm]	L ₂ [mm]
H3G00293 10659	Ø60	105	47,6	Ø17	22	Ø30	Ø40	140	55
H3G01950 30979	Ø60	108	40	Ø14	16	Ø26	Ø26	135	50
H3G02372 33563	Ø60	108	40	Ø14	16	Ø30	Ø40	135	50
33336 H3G02361	Ø60	108	47,6	Ø14	15	Ø30	Ø35	135	55
H3G01618 21395	Ø60	110	47,6	Ø17	16	Ø30	Ø30	145	55
H3G02228 32452	Ø60	110	47,6	Ø18	20	Ø30	Ø40	140	55
H3G01910 30458	Ø60	112	47,6	Ø14	15	Ø30	Ø40	140	55
33335 H3G02359	Ø60	116	47,6	Ø14	15	Ø30	Ø35	144	55
H3G01490	Ø67	90	47,6	Ø17	20	Ø35	28x20	120	50
H3G01473	Ø67	90	47,6	Ø17	20	Ø35	Ø35	120	50
H3G01942 30805	Ø67	96	47,6	Ø17	16	Ø30	Ø35	135	52
H3G01943 30806	Ø67	96	47,6	Ø17	16	Ø30	Ø35	135	52
H3G01394 18024	Ø67	96	47,6	Ø17	16	Ø30	Ø35	135	54
H3G01395 18025	Ø67	96	47,6	Ø17	16	Ø30	Ø35	135	54
H3G01947 31008	Ø67	96	47,6	Ø17	20	Ø30	Ø40	135	54
H3G01601	Ø67	96	47,6	Ø18	16	Ø30	Ø40	135	54
H3G01616	Ø67	96	47,6	Ø18	16	Ø30	Ø40	135	54
H3G00828 AN600056	Ø67	96	47,6	Ø18	16	Ø30	Ø40	135	54
H3G01578 20880	Ø67	96	47,6	Ø18	16	Ø30	Ø40	135	54
33370 H3G02363	Ø67	96	47,6	Ø18	16	Ø30	Ø40	135	54
H3G01971 31098	Ø67	96	47,6	Ø18	16	Ø30	Ø40	135	54
33554 H3G02370	Ø67	96	47,6	Ø18	22	Ø30	Ø40	135	54
H3G02102 32167	Ø67	96	47,6	Ø20	16	Ø30	Ø40	135	54
H3G01848 22998	Ø67	108	47,6	Ø17	16	Ø30	Ø35	135	54
H3G02033 31653	Ø67	108	47,6	Ø18	20	Ø30	Ø37	145	54

SNODI SFERICI

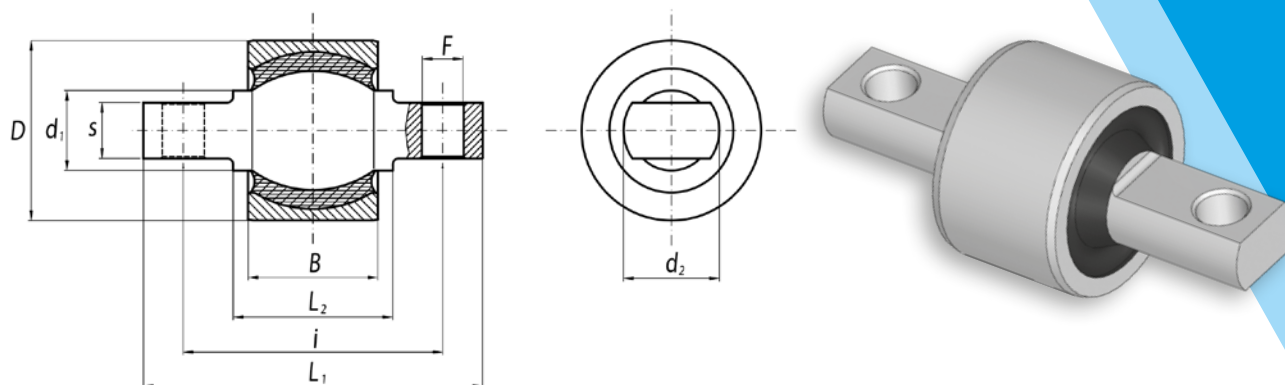
SPHERICAL JOINTS



Cod. Articolo Item Code	D [mm]	i [mm]	B [mm]	F [mm]	s [mm]	d ₁ [mm]	d ₂ [mm]	L ₁ [mm]	L ₂ [mm]
H3G00995 10356	Ø67	115	47,6	Ø17	20	Ø30	Ø40	145	54
H3G00775 14436	Ø70	96	47	Ø17	16	Ø30	Ø40	135	58
H3G00776 14437	Ø70	96	47	Ø17	16	Ø30	Ø40	135	58
H3G01474 12522	Ø70	96	50	Ø17	26	Ø34	Ø40	135	54
H3G00852 14754	Ø70	100	47	Ø13	20	Ø30	Ø35	120	58
H3G00090 10497	Ø70	105	50	Ø17	22	Ø30	Ø40	140	59,5
32788 H3G02380	Ø70	105	50	Ø18	22	Ø30	Ø40	140	59,5
H3G00639 13709	Ø70	110	50	Ø17	16	Ø30	Ø40	145	59,5
H3G01647 21555	Ø70	120	50	Ø18	18	Ø34	Ø40	160	70
H3G02367 33461	Ø70	130	50	Ø17	16	Ø34	Ø40	160	80
H3G01938 30973	Ø70	130	50	Ø21	20	Ø34	Ø40	175	75
H3G02101 32173	Ø70	130	50	Ø21	20	Ø34	Ø40	175	80
H3G01939 30974	Ø70	130	50	Ø21	27	Ø34	Ø40	175	75
H3G01410 18436	Ø70	135	50	Ø17	22	Ø34	Ø40	170	89
H3G01238 13534	Ø70	135	50	Ø17	22	Ø34	Ø40	170	89
H3G01925 30352	Ø70	140	50	M16x2	20	Ø34	Ø40	175	92
H3G00868 10696	Ø70	140	50	Ø17	16	Ø34	Ø40	175	92
H3G02350 33245	Ø70	140	50	Ø17	20	Ø34	Ø40	175	92
10244 H3G00866	Ø70	140	50	Ø17	20	Ø34	Ø40	175	92
H3G01807 21301	Ø70	140	50	Ø17	20	Ø34	Ø40	175	92
H3G00660 10375	Ø70	140	50	Ø17	20	Ø34	Ø40	175	92
H3G01965 31275	Ø70	140	50	Ø17	20	Ø34	Ø40	175	92
H3G00908 15155	Ø70	140	50	Ø17	26	Ø34	Ø40	175	92

SNODI SFERICI

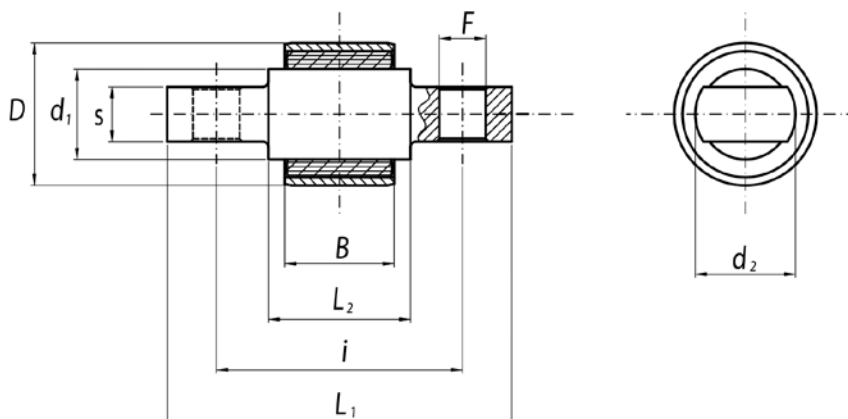
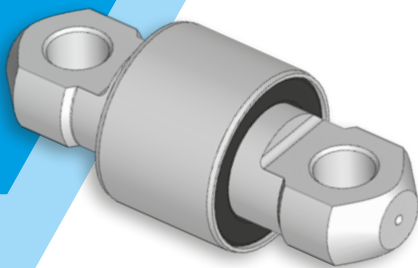
SPHERICAL JOINTS



Cod. Articolo Item Code	D [mm]	i [mm]	B [mm]	F [mm]	s [mm]	d ₁ [mm]	d ₂ [mm]	L ₁ [mm]	L ₂ [mm]
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H3G01932 30929	Ø70	140	50	Ø18	20	Ø34	Ø40	175	92
33553 H3G02371	Ø70	140	50	Ø18	22	Ø34	Ø40	175	80
H3G01411 18437	Ø70	170	50	Ø17	22	Ø34	Ø40	205	124
H3G01239 38435	Ø70	170	50	Ø17	22	Ø34	Ø40	204	124
32789 H3G02379	Ø70	170	50	Ø18	22	Ø34	Ø40	204	124
H3G01770	Ø90	120	70	Ø17	22	Ø40	Ø40	155	80
H3G00658 AN600302	Ø90	130	65	Ø21	28	Ø40	Ø48	170	80
H3G00654 AN600301	Ø90	130	70	Ø21	28	Ø40	Ø48	170	80
H3G01962 AN601340	Ø90	130	70	Ø21	28	Ø40	Ø48	170	80
H3G00657 AN600300	Ø90	145	70	Ø21	27	Ø40	Ø48	187	80
H3G00613	Ø100	125	55	Ø22	26	Ø56	Ø48	170	68
H3G00616	Ø103	140	70	Ø25	30	Ø46	Ø52	190	80
H3G02116	Ø103	140	70	Ø25	30	Ø46	Ø52	190	80
H3G02057	Ø105	150	76	Ø21	30	Ø50	Ø50	194	94
H3G01044	Ø110	155	70	Ø22	26	Ø56	Ø44	200	85
H3G00807	Ø115	150	75	Ø25	30	Ø55	Ø55	195	84
H3G00743	Ø115	150	80	Ø25	30	Ø55	Ø55	195	84
H3G01117	Ø115	175	80	Ø22	30	Ø55	Ø55	221	115
H3G02059	Ø120	165	90	Ø25	30	Ø58	Ø50	213	100
H3G00932	Ø120	180	85	Ø21	30	Ø56	Ø56	222	90
H3G01414	Ø135	176	90	Ø21	36	Ø68	Ø60	216	122

SNODI CILINDRICI

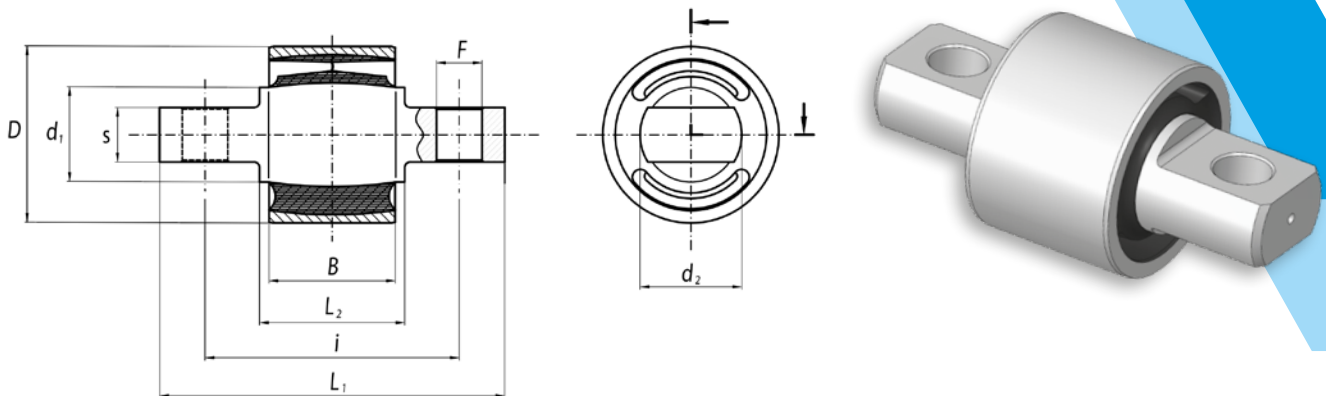
CYLINDRICAL JOINTS



Cod. Articolo Item Code	D [mm]	i [mm]	B [mm]	F [mm]	s [mm]	d ₁ [mm]	d ₂ [mm]	L ₁ [mm]	L ₂ [mm]
H3G00738	Ø49,2	90	40	Ø16,5	15	Ø33	Ø32	126	52
H3G01252 16789	Ø52	75	30	Ø13	12	Ø30	Ø30	105	40
H3G01929 30869	Ø52	75	30	Ø13	12	Ø30	Ø30	105	40
H3G01713 22008	Ø52	88	30	Ø13	16	Ø30	Ø30	115	40
H3G02229 32453	Ø52	90	30	Ø14	23	Ø30	25x16,9x23	116	40
H3G00977 11621	Ø52	90	40	Ø16,5	14	Ø33	Ø32	126	52
H3G01052	Ø52	90	40	Ø16,5	20	Ø33	Ø37	126	52
H3G02353 33266	Ø52	90	40	Ø17	20	Ø33	Ø37	126	52
H3G00207 12320	Ø52	90	40	Ø17	20	Ø33	Ø37	126	52
H3G02208 32461	Ø52	90	40	Ø18	20	Ø33	Ø37	126	52
H3G00774 14433	Ø52	92	40	Ø14	20	Ø33	Ø37	126	52
H3G01799 22672	Ø52	96	40	Ø16	16	Ø33	Ø37	128	52
H3G01895 30434	Ø52	96	40	Ø17	16	Ø33	Ø37	128	52
H3G01112 16235	Ø52	100	40	Ø13	16	Ø33	Ø37	135	52
H3G01884 30083	Ø52	108	40	M16x2	16	Ø33	Ø37	135	52
H3G01899 30401	Ø52	108	40	Ø14	16	Ø33	Ø37	135	52
H3G01687 21813	Ø52	108	40	Ø14	16	Ø33	Ø37	135	52
H3G01886 30120	Ø52	108	40	Ø14	16	Ø33	Ø37	135	52
H3G00773 14438	Ø52	108	40	Ø14	20	Ø33	Ø37	135	52
H3G01710 22244	Ø52	108	40	Ø17	16	Ø33	Ø37	135	52
H3G01659 21533	Ø52	108	40	Ø17	16	Ø33	Ø37	135	52
31558 H3G02007	Ø60	125	60	Ø14	20	Ø42	Ø26	160	84
30275 H3G01888	Ø60	130	40	Ø14	20	Ø42	Ø32,5	175	60
31376 H3G01969	Ø60	130	40	Ø14	20	Ø42	Ø28	175	60
H3G01887 30265	Ø60	140	60	Ø18	20	Ø42	Ø32,5	175	84
H3G01725	Ø105	140	85	Ø19	24	Ø63	Ø46	180	91

SNODI ASOLATI

SLOTTED JOINTS



Cod. Articolo Item Code	D [mm]	i [mm]	B [mm]	F [mm]	s [mm]	d ₁ [mm]	d ₂ [mm]	L ₁ [mm]	L ₂ [mm]
H3G00689	Ø95	140	70	Ø25	30	Ø52	Ø52	190	80
H3G01096	Ø103	140	70	Ø25	30	Ø46	Ø46	190	80
H3G00791	Ø135	/	160	/	45	Ø92	Ø86	290	160
H3G01203	Ø135	/	160	/	45	Ø92	Ø86	290	160
H3G00612	Ø150	235	160	Ø22	64	Ø92	Ø92	306	160
H3G01102	Ø150	235	160	Ø22	64	Ø92	Ø92	306	160
H3G00934	Ø180	/	170	/	45	Ø120	Ø86	316	170
H3G00936	Ø180	/	170	/	Ø80	Ø120	Ø80	316	190



CATALOGO
COMPONENTI
ANTIVIBRANTI

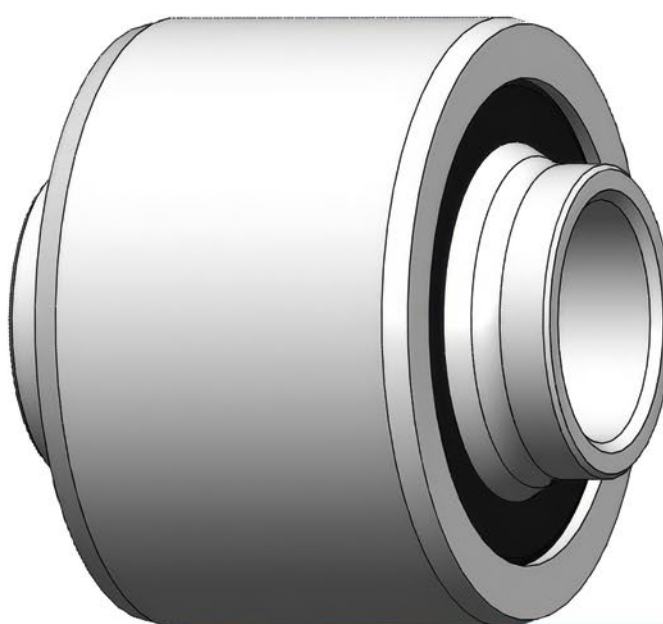
ANTI-VIBRATION
COMPONENTS
CATALOGUE

I silentblock sono componenti strutturali costituiti da un anello interno e un anello esterno. L'anello interno è legato all'anello esterno mediante elastomero vulcanizzato. Fondamentali nei sistemi di sospensione ferroviari, svolgono diverse funzioni chiave:

- Smorzamento di vibrazioni e rumori, per migliorare il comfort a bordo;
- Gestione di carichi multidirezionali (radiali, assiali, torsionali, conici) con risposta elastica calibrata;
- Isolamento elettrico, grazie a mescole speciali che impediscono il passaggio di corrente;
- Prestazioni costanti in condizioni operative variabili, come escursioni termiche, umidità elevata e cicli di carico intensi.

Silentblocks are structural components consisting of an inner ring and an outer ring. The inner ring is bonded to the outer ring by means of vulcanized elastomer. Fundamental in railway suspension systems, they perform several key functions:

- Damping of vibrations and noise, to improve on-board comfort;
- Management of multidirectional loads (radial, axial, torsional, conical) with calibrated elastic response;
- Electrical insulation, thanks to special compounds that prevent the passage of current;
- Consistent performance in variable operating conditions, such as temperature excursions, high humidity and intense load cycles.



SECTION

SILENTBLOCK

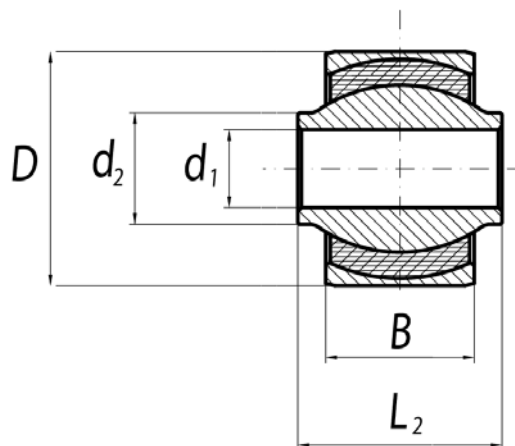
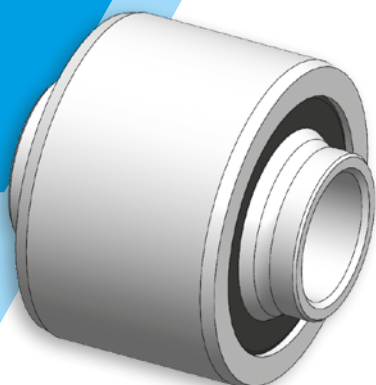
SILENTBLOCK

SPHERICAL
CYLINDRICAL

SFERICI 16
CILINDRICI 17

SILENTBLOCK SFERICI

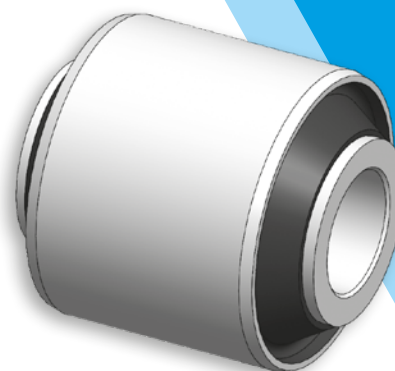
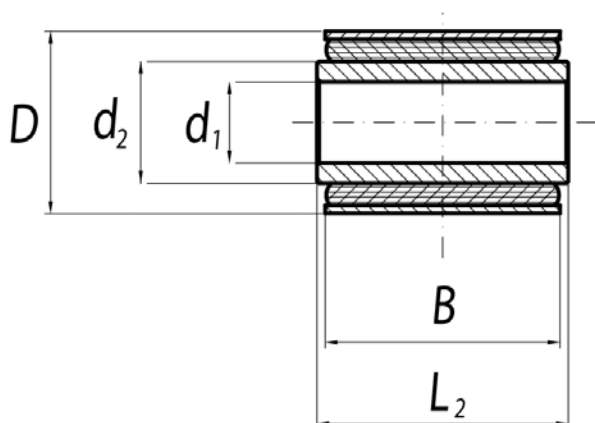
SPHERICAL SILENTBLOCK



Cod. Articolo Item Code	D [mm]	d ₁ [mm]	L ₂ [mm]	B [mm]	d ₂ [mm]
H3G01363	Ø60	Ø21	55	40	Ø28
H3G00350 10481	Ø60	Ø21	55	40	Ø30
H3G00349 10466	Ø60	Ø24	58	40	Ø30
H3G01270	Ø67	Ø25,4	54	47,6	Ø35
H3G00766	Ø90	Ø30	70	59	Ø46
H3G00765	Ø90	Ø30	70	59	Ø50
H3G00768	Ø90	Ø30	76	59	Ø46
H3G00606	Ø90	Ø30	80	70	Ø48
H3G00752	Ø95	Ø30	76	59	Ø52
H3G01585	Ø95	Ø30	76	59	Ø64
H3G00935	Ø275	Ø160	120	120	Ø200

SILENTBLOCK CILINDRICI

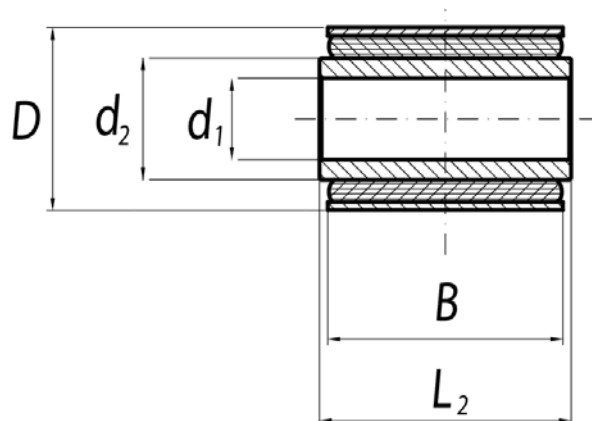
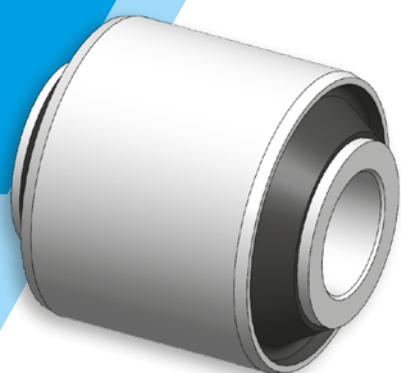
CYLINDRICAL SILENTBLOCK



Cod. Articolo Item Code	D [mm]	d ₁ [mm]	L ₂ [mm]	B [mm]	d ₂ [mm]
H3G01381	Ø25	Ø12	24	19-20	Ø16
H3G00769	Ø26	Ø12	24	20	Ø16
H3G01406	Ø36	Ø16	28	22	Ø24
H3G01253	Ø39,15	Ø20	62	39,8	Ø30
H3G02235 10465	Ø42	Ø18	42	35	Ø28
H3G01552	Ø42	Ø20	39	35	Ø28
H3G01524 10675	Ø42	Ø20	42	35	Ø28
H3G00249 13398	Ø42	Ø20	55	40	Ø34
H3G01678	Ø42	Ø24	38	32	Ø30
H3G00903	Ø42	Ø24	55	50	Ø30
H3G01086	Ø43,8	Ø16	50	39,5	Ø24
H3G02300	Ø44,45	Ø25	41	38	Ø30
H3G01700	Ø48	Ø20	52	40	Ø30
H3G01202 16646	Ø48	Ø20	52	40	Ø30
H3G01538	Ø48	Ø23	36	31,5	Ø30
H3G01829	Ø48	Ø21	50	40	Ø30
H3G01575	Ø52	Ø13	54	46	Ø22
H3G01387	Ø52	Ø20	52	40	Ø31
H3G00607 10512	Ø52	Ø24	66	60	Ø34
H3G02081 32083	Ø52	Ø30	55	46	Ø35
H3G00751	Ø56	Ø24,5	55	50	Ø38
H3G00750	Ø56	Ø32	55	50	Ø38
H3G02209 32067	Ø60	Ø30	75	60	Ø42
H3G02074 31621	Ø60	Ø32	92	60	Ø42

SILENTBLOCK CILINDRICI

CYLINDRICAL SILENTBLOCK



Cod. Articolo Item Code	D [mm]	d ₁ [mm]	L ₂ [mm]	B [mm]	d ₂ [mm]
H3G01889	Ø60	Ø32,5	60	39,7	Ø42
H3G00948 12290	Ø60	Ø32,5	84	60	Ø42
H3G01922 30700	Ø60	Ø32,5	90	60	Ø42
H3G01714 22204	Ø60	Ø32,5	92	60	Ø42
H3G02060	Ø65	Ø38	80	75	Ø47
H3G01731	Ø66	Ø38	60	55	Ø48
H3G01598	Ø75	Ø40	90	76	Ø53
H3G01405	Ø78	Ø32	86	75	Ø47
H3G00771	Ø78	Ø35	105	90	Ø47
H3G01572 21085	Ø90	Ø40	110	96	Ø60
H3G00886	Ø93	Ø48 e M52	80	76	Ø68
H3G00907	Ø93	Ø48	80	76	Ø68
H3G02058	Ø105	Ø38	82	76	Ø50
H9922041057	Ø111	Ø64	146	101,6	Ø71,6
H3G01415	Ø114	Ø64	88	75	Ø74
H3G00888	Ø120	Ø70	115	110	Ø94
H3G01364	Ø132	Ø70	130	130	Ø90
H9922041088	Ø135	Ø64	146	101,6	Ø80
H3G00891	Ø139	Ø80	96	90	Ø108
H3G00615	Ø145	Ø100	100	90	Ø115
H3G01398	Ø158	Ø80	82	78	Ø90
H3G02061	Ø200	Ø76,2	134	120	Ø100



CATALOGO
COMPONENTI
ANTIVIBRANTI

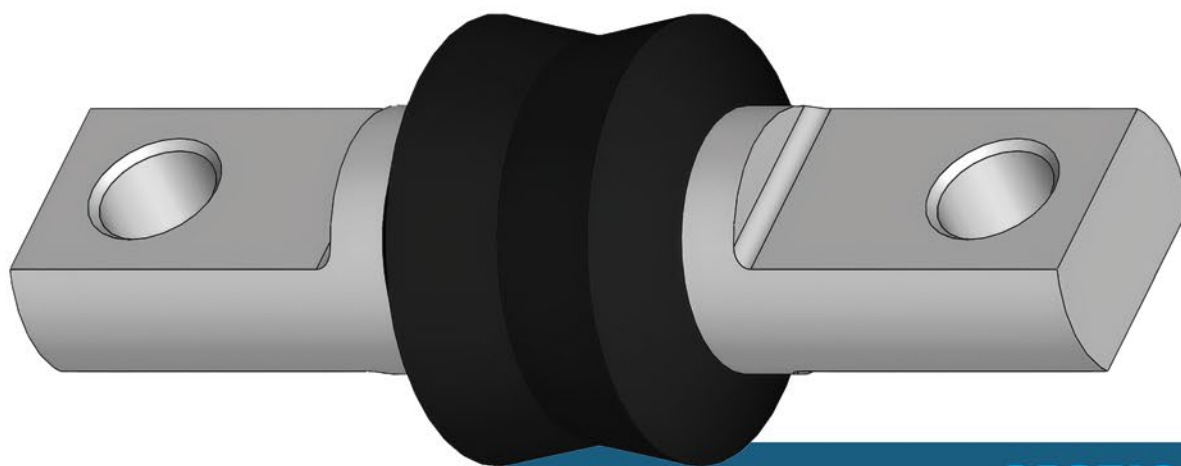
ANTI-VIBRATION
COMPONENTS
CATALOGUE

Le boccole sono componenti strutturali costituiti da un perno o un anello interno e gomma vulcanizzata esternamente. Fondamentali nei sistemi di sospensione ferroviari e automotive, svolgono diverse funzioni chiave:

- Smorzamento di vibrazioni e rumori, per migliorare il comfort a bordo;
- Gestione di carichi multidirezionali (radiali, assiali, torsionali, conici) con risposta elastica calibrata;
- Isolamento elettrico, grazie a mescole speciali che impediscono il passaggio di corrente;
- Prestazioni costanti in condizioni operative variabili, come escursioni termiche, umidità elevata e cicli di carico intensi.

Bushings are structural components consisting of an internal pin or ring and externally vulcanized rubber. Fundamental in railway and automotive suspension systems, they perform several key functions:

- Damping of vibrations and noise, to improve on-board comfort;
- Management of multidirectional loads (radial, axial, torsional, conical) with calibrated elastic response;
- Electrical insulation, thanks to special compounds that prevent the passage of current;
- Consistent performance in variable operating conditions, such as temperature excursions, high humidity and intense load cycles.



SECTION

BOCCOLE

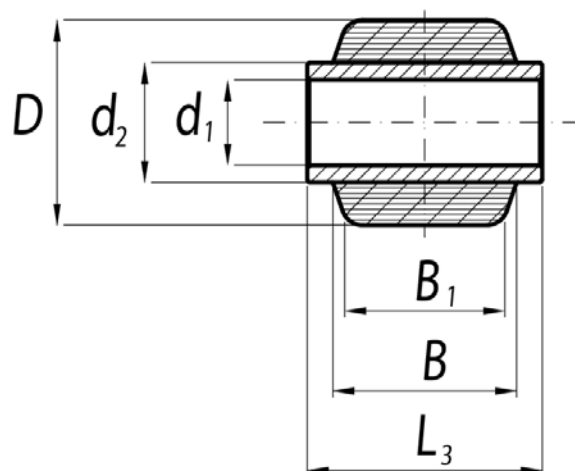
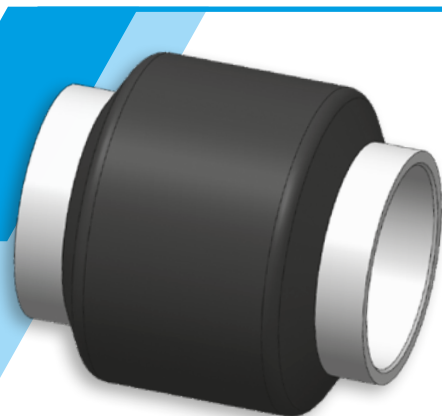
BUSHINGS

BUSHINGS TYPE A
BUSHINGS TYPE B
BUSHINGS TYPE B1
BUSHINGS TYPE C
BUSHINGS TYPE C1

BOCCOLE TIPO A 22
BOCCOLE TIPO B 24
BOCCOLE TIPO B1 25
BOCCOLE TIPO C 27
BOCCOLE TIPO C1 30

BOCCOLE TIPO A

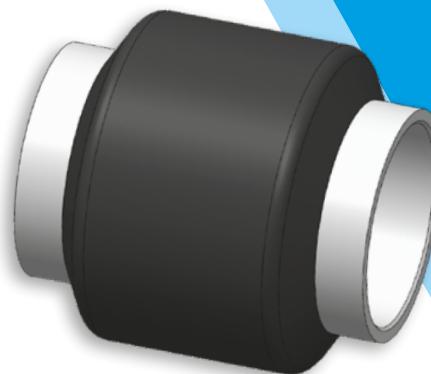
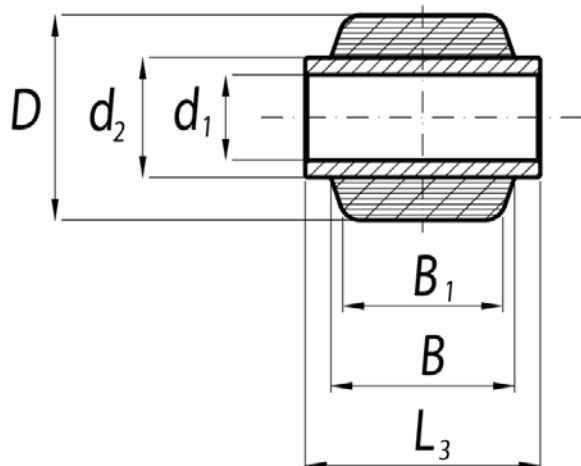
BUSHINGS TYPE A



Cod. Articolo Item Code	D [mm]	d ₁ [mm]	L ₃ [mm]	B [mm]	d ₂ [mm]	B ₁ [mm]
H3F00827	Ø41	Ø16	46	34	Ø26	20
H3F00709	Ø41	Ø16	50	34	Ø26	20
H3F00724	Ø41	Ø20	46	34	Ø26	20
H3F00725	Ø41	Ø20	50	34	Ø26	20
H3F00874 14993	Ø42,9	Ø20	55	38,5	Ø30	33
H3F01001 15126	Ø42,9	Ø20	62	38,5	Ø30	33
H3F00822 15376	Ø42,9	Ø20	68	38,5	Ø30	33
H3F01060 15741	Ø42,9	Ø20	70	38,5	Ø30	33
H3F00823 15377	Ø42,9	Ø20	78	38,5	Ø30	33
H3F01003 15629	Ø42,9	Ø20	105	38,5	Ø30	33
H3F00917 15413	Ø46	Ø16	44	35	Ø30	27
H3F00779 14461	Ø46	Ø16	46	35	Ø30	27
H3F00661 13469	Ø46	Ø16	50	35	Ø30	27
H3F00726	Ø46	Ø16,5	66	35	Ø30	27
H3F00713	Ø46	Ø16,5	100	35	Ø30	27
H3F00701 13506	Ø46	Ø18	42	35	Ø30	27
H3F00700 13505	Ø46	Ø18	46	35	Ø30	27
H3F01083	Ø46	Ø20	42	35	Ø30	27
H3F01549 18844	Ø46	Ø20	45	35	Ø30	27
H3F00101 13409	Ø46	Ø20	46	35	Ø30	27
H3F00731 14219	Ø46	Ø20	52	35	Ø30	27
H3F00699 13668	Ø46	Ø20	55	35	Ø30	27
H3F00727	Ø46	Ø20	58	35	Ø30	27
H3F00698 13467	Ø46	Ø20	62	35	Ø30	27
H3F00696 13503	Ø46	Ø21	48	35	Ø30	27
H3F00695 13691	Ø46	Ø24	50	35	Ø30	27
H3F00694 13468	Ø46	Ø24	52	35	Ø30	27

BOCCOLE TIPO A

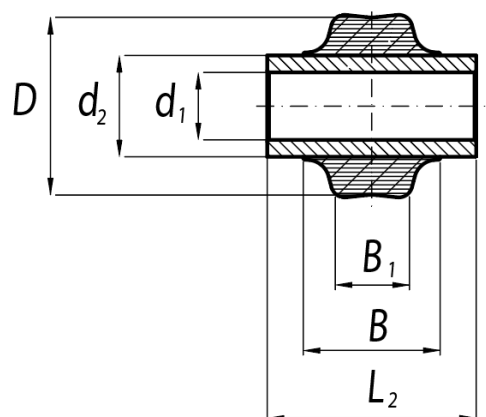
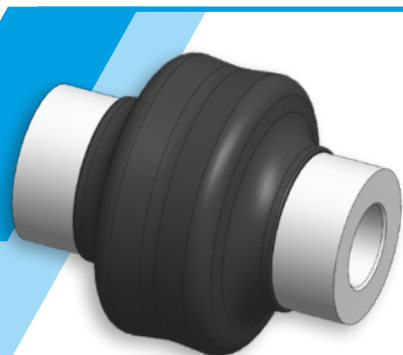
BUSHINGS TYPE A



Cod. Articolo Item Code	D [mm]	d ₁ [mm]	L ₃ [mm]	B [mm]	d ₂ [mm]	B ₁ [mm]
H3F00721 13703	Ø46	Ø24	52	38	Ø32	27
H3F00722 13470	Ø46	Ø24	55	35	Ø30	27
H3F00693 13702	Ø46	Ø24	55	38	Ø32	27
H3F00728	Ø46	Ø24	58	35	Ø30	27
H3F01005 15446	Ø46	Ø24	58	38	Ø32	27
H3F00730	Ø46	Ø24	66	35	Ø30	27
H3F01674 21505	Ø46	Ø25	40	35	Ø30	27
H3F00967 15274	Ø46	Ø25	45	35	Ø30	27
16021	Ø46	Ø25	50	38	Ø32	27
H99 2205 1241	Ø49	Ø22,3	76	58,5	Ø30	38
H3F00077 16236	Ø52,8	Ø20	46	38	Ø34	28
H3F00690 13412	Ø52,8	Ø20	52	38	Ø34	28
H3F01181 14388	Ø52,8	Ø20	62	38	Ø34	28
H3F00691 13504	Ø52,8	Ø21	50	38	Ø34	28
H3F00642 13748	Ø52,8	Ø24	58	38	Ø34	28
H3F00923	Ø52,8	Ø28	70	38	Ø34	28
H3F00692 13426	Ø52,8	Ø30	52	38	Ø34	28
H3F01548 19242	Ø56,3	Ø16	105	45	Ø40	37
H3F01300 17109	Ø56,3	Ø20	62	45	Ø40	37
H3F01298 16814	Ø56,3	Ø20	105	45	Ø40	37
H3F00965 15436	Ø56,3	Ø28	66	45	Ø40	37
H3F01590 20480	Ø56,3	Ø28	100	45	Ø40	37
H3F00873 15432	Ø56,3	Ø30	62	45	Ø40	37
H3F01591	Ø56,3	Ø35	62	45	Ø40	37
H9922051393	Ø61	Ø30	80	50	Ø40	28
H9922051244	Ø64	Ø30	68	45,5	Ø40	39

BOCCOLE TIPO B

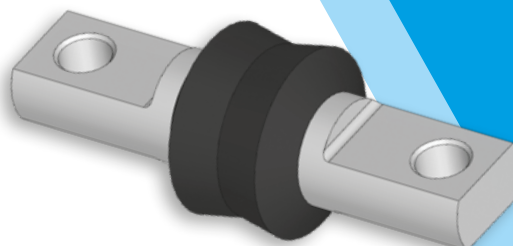
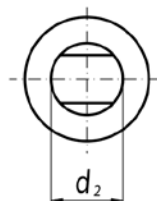
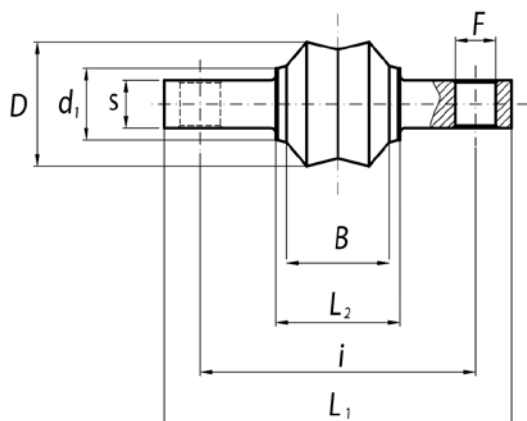
BUSHINGS TYPE B



Cod. Articolo Item Code	D [mm]	d ₁ [mm]	L ₂ [mm]	B [mm]	d ₂ [mm]	B ₁ [mm]
H3F00311 13441	Ø35,5	Ø12,7	32	24,5	Ø22	/
H3F01547 20068	Ø52,1	Ø16	50	40	Ø30	22
H3F01546 20221	Ø52,1	Ø16	58	40	Ø30	22
H3F01344 17485	Ø52,1	Ø16	66	40	Ø30	22
H3F02178 32343	Ø52,1	Ø16	82	40	Ø30	22
H3F02107 32199	Ø52,1	Ø16	84	40	Ø30	22
H3F01343 17482	Ø52,1	Ø16	100	40	Ø30	22
32514	Ø52,1	Ø16	105	40	Ø30	22
H3F01069 15990	Ø52,1	Ø18	55	40	Ø30	22
H3F01427 18697	Ø52,1	Ø18	55	40	Ø30	22
H3F01002 15628	Ø52,1	Ø20	50	40	Ø30	22
H3F01284 17012	Ø52,1	Ø20	52	40	Ø30	22
H3F01447 19007	Ø52,1	Ø20	55	40	Ø30	22
H3F01279 15999	Ø52,1	Ø20	55	40	Ø30	22
32943	Ø52,1	Ø20	59	40	Ø30	22
H3F01255 16925	Ø52,1	Ø20	62	40	Ø30	22
H3F01502 19143	Ø52,1	Ø20	68	40	Ø30	22
H3F01501 19141	Ø52,1	Ø20	78	40	Ø30	22
32942	Ø52,1	Ø20	89	40	Ø30	22
H3F01379 18203	Ø52,1	Ø20	105	40	Ø30	22
H3F01801 19775	Ø52,1	Ø22	55	40	Ø30	22
H3F02106 32212	Ø52,1	Ø24	50	40	Ø30	22
H3F01378 17571	Ø52,1	Ø24	52	40	Ø30	22
H3F01185 14291	Ø52,1	Ø24	55	40	Ø30	22
H3F01290 17360	Ø52,1	Ø24	55	40	Ø30	22
H3F01222 16658	Ø52,1	Ø24	58	40	Ø30	22
H3F01631 19937	Ø52,1	Ø24	62	40	Ø30	22
H3F01564 20498	Ø52,1	Ø24	66	40	Ø30	22

BOCCOLE TIPO B1

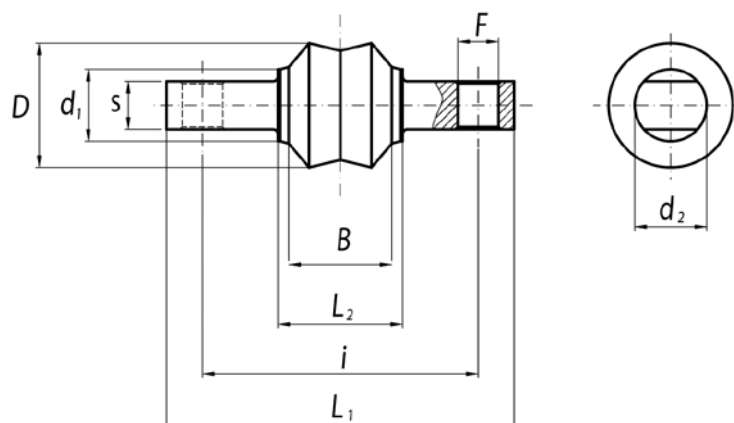
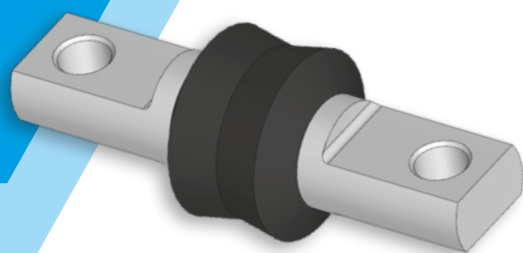
BUSHINGS TYPE B1



Codice Articolo Item Code	D [mm]	i [mm]	B [mm]	F [mm]	s [mm]	d ₁ [mm]	d ₂ [mm]	L ₁ [mm]	L ₂ [mm]
H3F01342 17483	Ø50,5	86	38,5	Ø13	16	Ø30	Ø30	120	52
H3F01652 21350	Ø50,5	90	38,5	Ø14	15	Ø30	Ø30	115	52
H3F01893 30330	Ø50,5	90	38,5	Ø14	16	Ø30	Ø30	126	52
H3F01753 22418	Ø50,5	90	38,5	Ø17	15	Ø30	Ø30	135	52
H3F00778 14435	Ø50,5	92	38,5	Ø14	20	Ø30	Ø30	126	52
H3F01531 19401	Ø50,5	95	38,5	Ø17	15	Ø30	Ø30	135	52
H3F01717 22272	Ø50,5	96	38,5	Ø12	16	Ø30	Ø30	135	52
H3F01917 30653	Ø50,5	96	38,5	Ø12	16	Ø30	Ø30	135	52
H3F02345 33174	Ø50,5	96	38,5	Ø13	15	Ø30	Ø30	135	52
H3F01954 31165	Ø50,5	96	38,5	Ø13	16	Ø30	Ø30	120	52
H3F01656 21630	Ø50,5	96	38,5	Ø14	16	Ø30	Ø30	135	52
H3F01919 30665	Ø50,5	96	38,5	Ø14	16	Ø30	Ø30	135	52
H3F01873 30183	Ø50,5	96	38,5	Ø14	20	Ø30	Ø30	120	52
H3F00884 14717	Ø50,5	96	38,5	Ø17	16	Ø30	Ø30	135	52
33352 H3F02360	Ø50,5	100	38,5	Ø14	15	Ø30	Ø30	135	52
H3F01281 17070	Ø50,5	100	38,5	Ø15	16	Ø30	Ø30	129	52
H3F02158 32329	Ø50,5	102	38,5	Ø14	16	Ø30	Ø30	130	52
H3F01859 30089	Ø50,5	102	38,5	Ø14	16	Ø30	Ø30	135	52
H3F01423 18276	Ø50,5	108	38,5	Ø13	15	Ø30	Ø30	136	52
H3F01898 30400	Ø50,5	108	38,5	Ø14	15	Ø30	Ø30	136	52
H3F00188 12685	Ø50,5	108	38,5	Ø14	16	Ø30	Ø30	135	52
H3F01078 15702	Ø50,5	108	38,5	Ø14	16	Ø30	Ø30	135	52
H3F01882 15702/1	Ø50,5	108	38,5	Ø14	16	Ø30	Ø30	135	52
H3F01885 30119	Ø50,5	108	38,5	Ø14	16	Ø30	Ø30	135	52
H3F01916 30639	Ø50,5	108	38,5	Ø14	16	Ø30	Ø30	135	52
H3F01097 16197	Ø50,5	108	38,5	Ø14	16	Ø30	Ø30	135	52

BOCCOLE TIPO B1

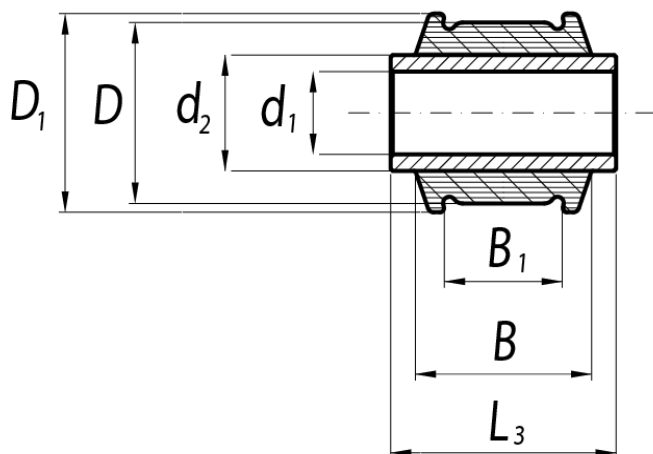
BUSHINGS TYPE B1



Codice Articolo Item Code	D [mm]	i [mm]	B [mm]	F [mm]	s [mm]	d ₁ [mm]	d ₂ [mm]	L ₁ [mm]	L ₂ [mm]
H3F00777 14434	Ø50,5	108	38,5	Ø14	20	Ø30	Ø30	135	52
H3F00667 13705	Ø50,5	108	38,5	Ø17	16	Ø30	Ø30	135	52
H3F01393 13705/1	Ø50,5	108	38,5	Ø17	16	Ø30	Ø30	135	52
H3F01940 30798	Ø50,5	108	38,5	Ø17	16	Ø30	Ø30	135	52
H3F01438 18678	Ø50,5	108	38,5	Ø17	16	Ø30	Ø30	135	52
33555 H3F02374	Ø50,5	108	38,5	Ø17	20	Ø30	Ø30	135	52
H3F01439 18416	Ø50,5	108	38,5	1/2-13 UNC 2B ANSI B1.1-1982	16	Ø30	Ø30	135	52
H3F01673 21440	Ø50,5	108	38,5	M14x1,5	16	Ø30	Ø30	135	52
H3F01532 19920	Ø50,5	108	38,5	M16x2	16	Ø30	Ø30	135	52
H3F01707 21993	Ø50,5	108	39,7	Ø14	16	Ø28	Ø28	135	55
H3F01711 22075	Ø50,5	110	38,5	Ø14	16	Ø30	Ø30	135	52
H3F01926 30789	Ø50,5	112	38,5	Ø14	15	Ø30	Ø30	140	52
H3F01953 31156	Ø50,5	112	38,5	Ø14	16	Ø30	Ø30	140	52
H3F00883 14716	Ø50,5	115	38,5	Ø17	20	Ø30	Ø30	145	52

BOCCOLE TIPO C

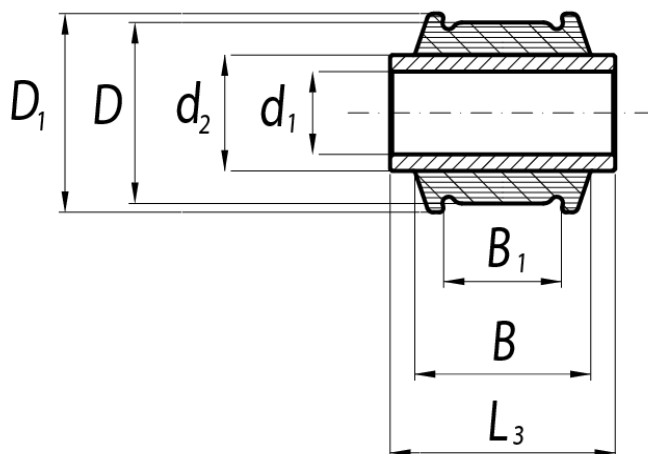
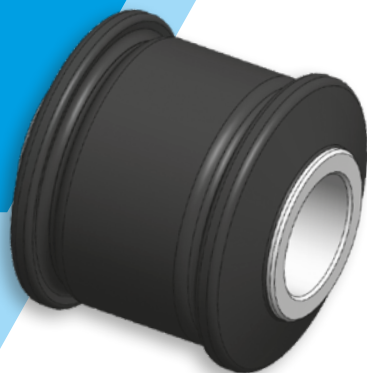
BUSHINGS TYPE C



Cod. Articolo Item Code	D [mm]	d ₁ [mm]	L ₃ [mm]	B [mm]	d ₂ [mm]	D ₁ [mm]	B ₁ [mm]
H3F01299 16843	Ø30,6	Ø10	33	30	Ø20	Ø35	20,3
H3F02177 32231	Ø30,6	Ø12	34	30	Ø20	Ø35	20,3
H3F01568 18293	Ø30,6	Ø12	40	29,5	Ø20	Ø35	20,3
H3F01669 20372	Ø30,6	Ø12	47	30	Ø20	Ø35	20,3
H3F01542 19441	Ø30,6	Ø14	32	30	Ø20	Ø35	20,3
H3F00234 10297	Ø30,6	Ø14	33	30	Ø20	Ø35	20,3
H3F00621 10297/2	Ø30,6	Ø14	34	30	Ø20	Ø35	20,3
H3F00620 10297/1	Ø30,6	Ø16	34	30	Ø20	Ø35	20,3
H3F01667 21498	Ø30,6	Ø16	36	30	Ø20	Ø35	20,3
H3F01666 21263	Ø30,6	Ø16	58	30	Ø20	Ø35	20,3
H3F01665 21262	Ø30,6	Ø16	70	30	Ø20	Ø35	20,3
H3F01550 19740	Ø30,6	Ø18	33	29,5	Ø22	Ø35	20,3
H3F00053 12886 - 10344	Ø33,2	Ø12	38	35	Ø21	Ø37	25
H3F01852 21896	Ø33,2	Ø12	45	35	Ø21	Ø37	25
H3F00829 10470/4	Ø33,2	Ø14	40	35	Ø21	Ø37	25
H3F00833 10470/3 - 18857	Ø33,2	Ø14	45	35	Ø21	Ø37	25
H3F01111	Ø33,2	Ø14	50	35	Ø21	Ø37	25
H3F01220	Ø33,2	Ø15	45	35	Ø21	Ø37	25
H3F00002 10470/1	Ø33,2	Ø16	38	35	Ø21	Ø37	25
H3F00979 10470/5	Ø33,2	Ø16	40	35	Ø21	Ø37	25

BOCCOLE TIPO C

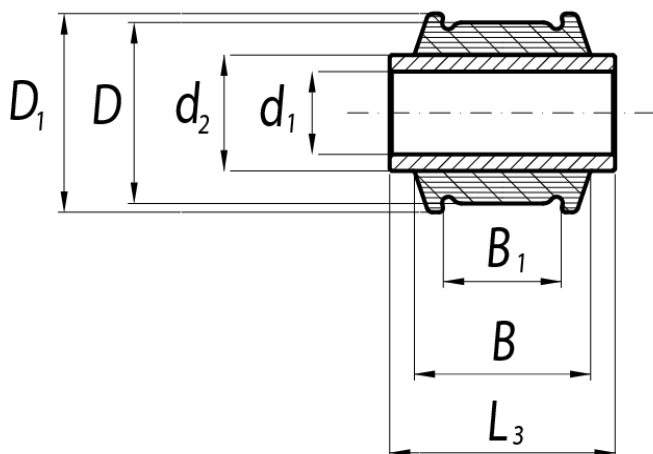
BUSHINGS TYPE C



Cod. Articolo Item Code	D [mm]	d ₁ [mm]	L ₃ [mm]	B [mm]	d ₂ [mm]	D ₁ [mm]	B ₁ [mm]
H3F01853 22775	Ø33,4	Ø12	50	36	Ø21	Ø37	25
H3F01098 16187	Ø33,4	Ø14	50	36	Ø21	Ø37	25
H3F01186 16345	Ø33,4	Ø14	58	36	Ø21	Ø37	25
H3F01188 16388	Ø33,4	Ø14	62	36	Ø21	Ø37	25
H3F01314 17604	Ø33,4	Ø16	48	36	Ø21	Ø37	25
H3F01187 16389	Ø33,4	Ø16	50	36	Ø21	Ø37	25
H3F01315 17605	Ø34	Ø14	34	33	Ø21	Ø37	25
H3F01416 18238	Ø34,5	Ø12	40	35	Ø24	Ø40,5	22
H99 2205 1356 16651	Ø34,5	Ø16	38	35	Ø24	Ø40,5	22
H3F02067 31887	Ø34,5	Ø19	40	35	Ø24	Ø40,5	22
H3F01677 21755	Ø39,7	Ø12	42	41	Ø26	Ø45,5	28
H3F01802 22699	Ø39,7	Ø14	42	41	Ø26	Ø45,5	28
H99 2205 1484 16653	Ø39,7	Ø16	44	41	Ø26	Ø45,5	28
H3F01533 18305	Ø39,7	Ø18	42	41	Ø26	Ø45,5	28
H3F01664 20457	Ø39,7	Ø19	44	41	Ø26	Ø45,5	28
16650	Ø42,2	Ø16	50	47	Ø24	Ø47,5	34
H3F01556 20285	Ø43,7	Ø12	50	43	Ø28	Ø48	29
H3F01653 21178	Ø43,7	Ø14	50	43	Ø28	Ø48	29
H3F01798 20429	Ø43,7	Ø16	46	43	Ø28	Ø48	29
21806	Ø43,7	Ø16	48	43	Ø28	Ø48	29
H3F01353 17878	Ø43,7	Ø16	50	43	Ø28	Ø48	29

BOCCOLE TIPO C

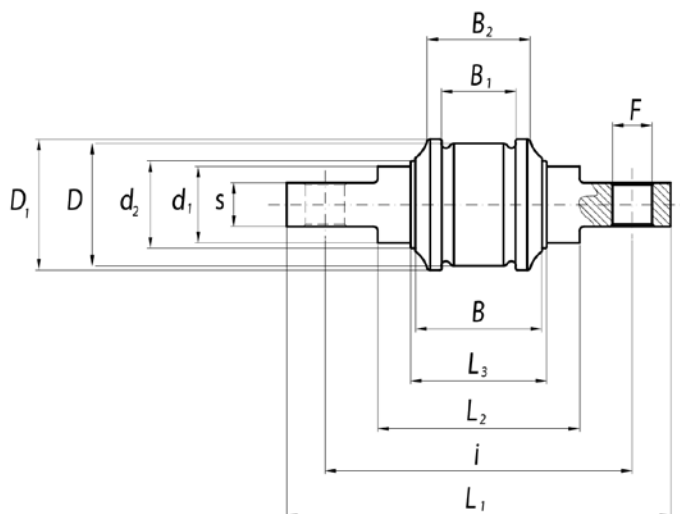
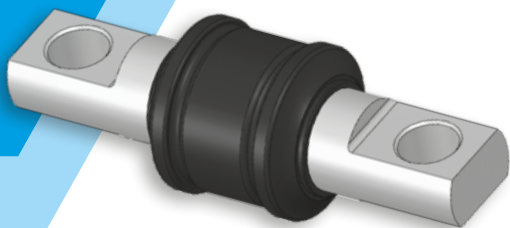
BUSHINGS TYPE C



Cod. Articolo Item Code	D [mm]	d ₁ [mm]	L ₃ [mm]	B [mm]	d ₂ [mm]	D ₁ [mm]	B ₁ [mm]
H3F01734 22197	Ø43,7	Ø16	58	43	Ø28	Ø48	29
H3F01827 21027	Ø43,7	Ø16	62	43	Ø28	Ø48	29
H3F01680 17157	Ø43,7	Ø16	66	43	Ø28	Ø48	29
H3F01389 17973	Ø43,7	Ø18	46	43	Ø28	Ø48	29
H3F02129 32232	Ø43,7	Ø19,2	50,8	43	Ø28	Ø48	29
H3F02263 32420	Ø43,7	Ø20	45	43	Ø28	Ø48	29
H3F02330 16652	Ø43,7	Ø20	46	43	Ø28	Ø48	29
H3F01448 18643	Ø43,7	Ø20	50	43	Ø28	Ø48	29
H3F01826 22386	Ø43,7	Ø20	52	43	Ø28	Ø48	29
H99 2205 1353 16654	Ø43,7	Ø20	55	43	Ø28	Ø48	29
H3F01671 21028	Ø43,7	Ø20	62	43	Ø28	Ø48	29
33792	Ø43,7	Ø21	48	43	Ø28	Ø48	29
H3F02087 31945	Ø43,7	Ø21	50	43	Ø28	Ø48	29
H3F01688 21848	Ø43,7	Ø22	50	43	Ø28	Ø48	29
H3F00048 12486	Ø44,5	Ø22,6	65	42	Ø30	Ø48,5	29
H3F01289 17280	Ø44,5	Ø22,6	70	42	Ø30	Ø48,5	29
H3F01412 18443	Ø55,8	Ø20	62	57	Ø40	Ø60	34
H3F01931	Ø55,8	Ø22,5	70	57	Ø40	Ø60	34
H3F01715	Ø55,8	Ø28	65	57	Ø40	Ø60	34
H3F01380 18204	Ø55,8	Ø30	62	57	Ø40	Ø60	34
H3F01696	Ø55,8	Ø35	62	57	Ø40	Ø60	34

BOCCOLE TIPO C1

BUSHINGS TYPE C1



Cod. Articolo Item Code	D [mm]	i [mm]	B [mm]	F [mm]	s [mm]	d ₁ [mm]	d ₂ [mm]	L ₁ [mm]	L ₂ [mm]	L ₃ [mm]	B ₁ [mm]	B ₂ [mm]	D ₁ [mm]
H3F00343 13424	Ø34	100	52	Ø15	16	Ø30	Ø34	129	62	/	/	38	Ø52,8
H3F01675 21727	Ø34,5	64	35,7	Ø8,2	/	Ø24	/	75	/	/	22,45	28,2	Ø40,5
H3F00901 15179	Ø35	125	50,9	Ø18	16	Ø28	Ø34	160	/	70	39	/	Ø52,8
H3F02333 33310	Ø55,7	96	57,5	Ø13	15	Ø35	Ø40	136	62	62	34	47	Ø60
H3F01912 30585	Ø55,7	140	57,5	Ø17	20	Ø35	Ø40	175	92	62	34	47	Ø60
H3F02051 31850	Ø55,7	140	57,5	Ø18	20	Ø35	Ø40	175	92	62	34	47	Ø60
H3F02023 31635	Ø55,7	158	57,5	Ø18	20	Ø35	Ø40	193	92	62	34	47	Ø60
H3F01934 30872	Ø56,1	138	57,5	Ø21	10,5	Ø30	Ø40	176,5	/	62	34	47	Ø60
H3F01695 21940	Ø56,1	138	57,5	Ø21	20	Ø35	Ø40	175	92	62	34	47	Ø60



CATALOGO
COMPONENTI
ANTIVIBRANTI

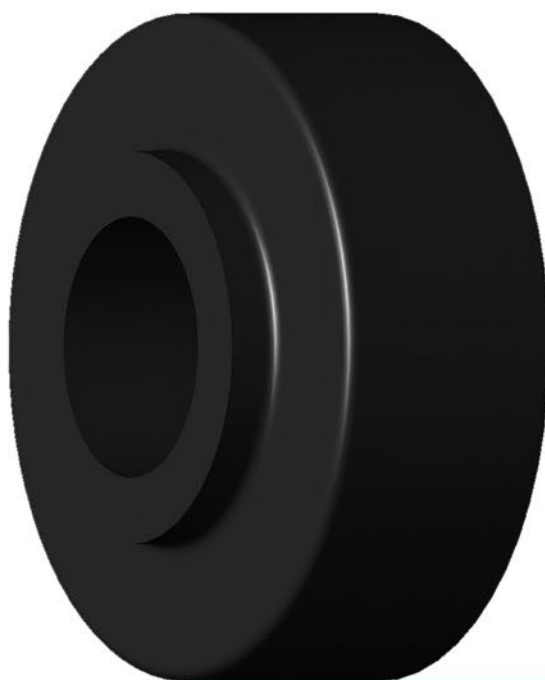
ANTI-VIBRATION
COMPONENTS
CATALOGUE

I gommini sono componenti strutturali costituiti da gomma vulcanizzata. Fondamentali nei sistemi di sospensione ferroviari e automotive, svolgono diverse funzioni chiave:

- Smorzamento di vibrazioni e rumori, per migliorare il comfort a bordo;
- Gestione di carichi multidirezionali (assiali, torsionali, conici) con risposta elastica calibrata;
- Prestazioni costanti in condizioni operative variabili, come escursioni termiche, umidità elevata e cicli di carico intensi.

Rubber pads are structural components made of vulcanized rubber. Fundamental in railway and automotive suspension systems, they perform several key functions:

- Damping of vibrations and noise, to improve on-board comfort;
- Management of multidirectional loads (axial, torsional, conical) with calibrated elastic response;
- Consistent performance in variable operating conditions, such as temperature excursions, high humidity and intense load cycles.



SECTION

GOMMINI

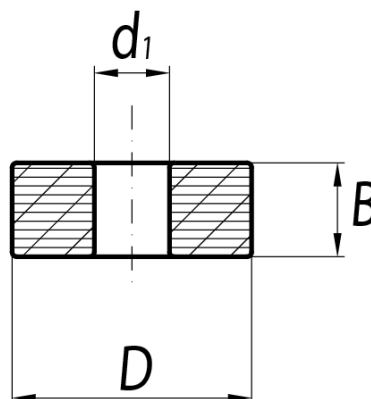
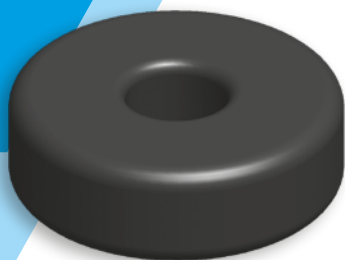
RUBBER

RUBBERS TYPE A
RUBBERS TYPE B
RUBBERS TYPE C

GOMMINI TIPO A 34
GOMMINI TIPO B 35
GOMMINI TIPO C 36

GOMMINI TIPO A

RUBBERS TYPE A

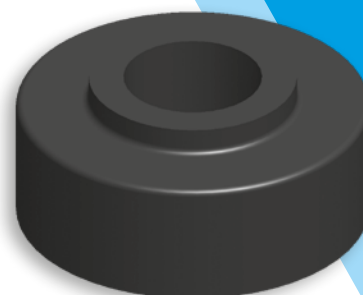
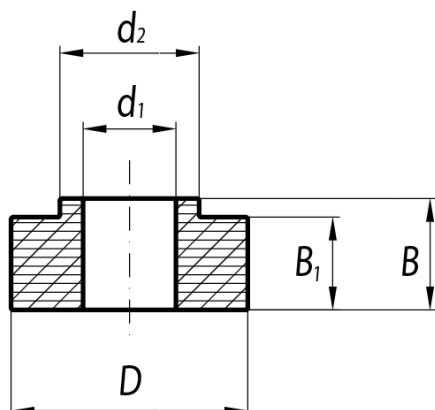


Cod. Articolo Item Code	D [mm]	d ₁ [mm]	B [mm]
H3A01133	Ø15	Ø7	8,5
H3A00194	Ø20	Ø11	7
H3A00340	Ø20	Ø13	7
H3A00444	Ø21,5	Ø12,5	12,5
H3A00419	Ø22,3	Ø7	11,5
H3A00108	Ø25	Ø13	9,25
H3A00432	Ø27	Ø9,8	9,6
H3A00422	Ø27,6	Ø14,4	11
H3A00429	Ø28	Ø5	9,5
H3A00430	Ø28	Ø5	15,5
H3A00118	Ø28,2	Ø13	14,4
H3A00412	Ø28,5	Ø21,2	15,1
H3A00248	Ø29,8	Ø9,8	22
H3A01756 20465	Ø30	Ø10	12
H3A00440	Ø32	Ø16	12
H3A00335	Ø32,6	Ø18,5	9,25
H3A00081	Ø33,5	Ø15	12,5
H3A01076	Ø35	Ø20,5	15,5
H3A00423	Ø35,5	Ø16,7	11,5
H3A00439	Ø36,4	Ø16,6	13,6
H3A00421	Ø39,1	Ø17,4	27,2
H3A00417	Ø40	Ø17	31,5
H3A01456	Ø40	Ø24	22
H3A01455	Ø40	Ø30	9

Cod. Articolo Item Code	D [mm]	d ₁ [mm]	B [mm]
H3A00454	Ø43	Ø25	30,5
H3A00477	Ø45	Ø19	17
H3A00426	Ø46	Ø18	19,2
H3A00029 15697	Ø50	Ø19 / Ø23	20
H3A01407	Ø50	Ø29	45
H3A00909 15223	Ø51	Ø16	20
H3A00399	Ø53,6	Ø24,1	24
H3A01123	Ø54,3	Ø27,7	23
H3A01180	Ø60	Ø20	33
H3A00292 15495	Ø62	Ø19 / Ø22	20
H3A01795	Ø62	Ø20 / Ø24	24
H3A00438	Ø67	Ø27	29
H3A00411	Ø75	Ø24	41
H3A00425	Ø80,3	Ø43	31,5
H3A00427	Ø80,8	Ø43	39
H3A00436	Ø82,5	Ø42,5	36
H3A01065	Ø88	Ø60	10
H3A01089	Ø120	Ø40	126
H3A01064	Ø120	Ø66	30
H3A01441	Ø136,5	Ø83	84,7
H3A01624	Ø150	Ø88	60
H3A01706	Ø152	Ø128	40
H3A00569	Ø223	Ø158,8	101,6

GOMMINI TIPO B

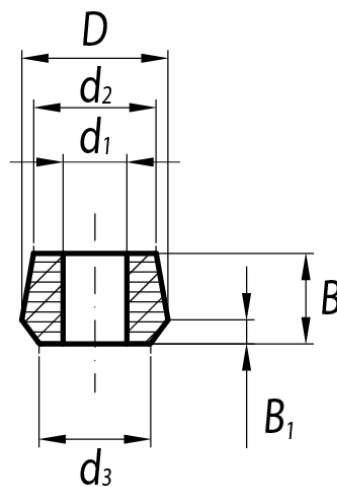
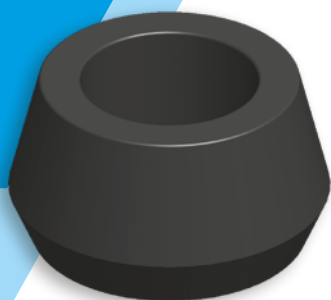
RUBBERS TYPE B



Cod. Articolo Item Code	D [mm]	d ₁ [mm]	B ₁ [mm]	B [mm]	d ₂ [mm]
H3A00133	Ø24	Ø7,5	5	12	Ø12
H3A00792	Ø30	Ø10	12	15	Ø15
H3A00890	Ø32,5	Ø12	9	11	Ø19,5
H9922071096	Ø44,5	Ø16	19	22	Ø19
H3A00652 21459	Ø47,5	Ø20	24	27	Ø26,5
H3A00103	Ø49	Ø20	20	24	Ø26,5
H3A00929 18635	Ø49	Ø20	20	24	Ø26,5
H3A01642	Ø50	Ø19	13,7	18,7	Ø30
H3A01251 16755	Ø51	Ø20	18	22	Ø28
H3A00018 10530	Ø51	Ø20	18	22	Ø30
33216	Ø51	Ø20	18	22	Ø35
H3A00206 10529	Ø51	Ø22	18	22	Ø30
H3A00017	Ø58	Ø21	11,5	15	Ø42
33347	Ø60	Ø20	23,5	28	Ø27
H3A00037 10528	Ø60	Ø20	26	31	Ø27
H3A10528 10528/1	Ø60	Ø20	26	31	Ø27
H3A01440 18848	Ø60	Ø20	26	31	Ø35
33552	Ø60	Ø20	28	33	Ø27
33561	Ø60	Ø20	32	37	Ø27
33824	Ø60	Ø24	26	31	Ø32
H3A01567 20858	Ø60	Ø27	26	31	Ø35
H3A01897 10335/1	Ø65	Ø30	10,5	14	Ø38
H3A02103 32183	Ø75	Ø24	38	43	Ø31
H3A01109 16243	Ø86	Ø40	12	17	Ø49
H3A00202 10845	Ø86	Ø40	26	31	Ø50

GOMMINI TIPO C

RUBBERS TYPE C



Codice Articolo Item Code	D [mm]	d ₁ [mm]	B [mm]	d ₂ [mm]	d ₃ [mm]	B ₁ [mm]
H3A01520 19869	Ø27,5	Ø12	17	Ø23	Ø21	4,5
H3A01966 31291	Ø30	Ø16	18,5	Ø26	Ø26	7
H3A01521 19812	Ø36	Ø19	22,5	Ø31	Ø31	6
H3A01429 10517	Ø47	Ø22	26	Ø38	Ø40	8
33304	Ø47	Ø25	23,5	Ø38	Ø40	8
H3A00230 10517/A	Ø47	Ø26	26	Ø38	Ø40	8



CATALOGO
COMPONENTI
ANTIVIBRANTI

ANTI-VIBRATION
COMPONENTS
CATALOGUE

I soffietti sono componenti funzionali costituiti da gomma vulcanizzata. Fondamentali nei sistemi di sospensione ferroviari e automotive, svolgono diverse funzioni chiave:

- Protezione di componenti meccanici ed elettrici da agenti esterni;
- Prestazioni costanti in condizioni operative variabili, come escursioni termiche, umidità elevata e cicli di carico intensi.

Bellows are functional components made of vulcanized rubber. Fundamental in railway and automotive suspension systems, they perform several key functions:

- Protection of mechanical and electrical components from external agents;
- Consistent performance under variable operating conditions, such as temperature excursions, high humidity and intense load cycles.



SECTION

SOFFIETTI

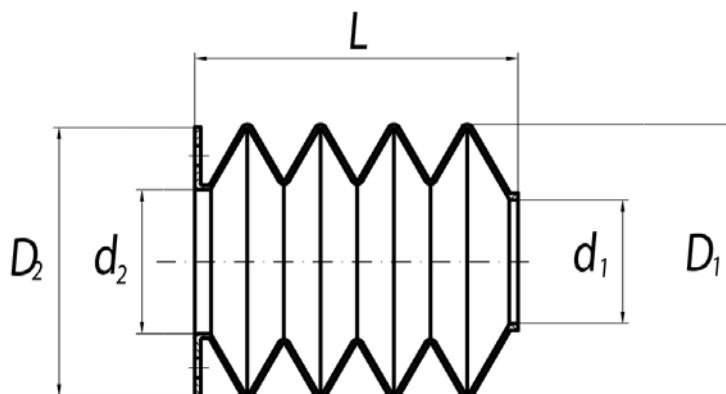
BELLOWS

BELLOWS

SOFFIETTI 40

SOFFIETTI

BELLOWS



Codice Articolo Item Code	d_1 [mm]	d_2 [mm]	D_1 [mm]	N []	L [mm]	D_2 [mm]
H3C01377	20,5	56,6	46,8 - 52,5	2,5	38,6	57,9
H3C01376	25,5	68,5	57,8 - 67,5	2,5	45,9	71,5
H3C01297	31,5	36,7	70	4	82,5	68,5
H3C01777	38	38	80	6	155	48
H3C01835	40	44	64	16	177	47,6
H3C01000	41	28,5	64	16	177	41
H3C01577	41	55	96	4	150	64
H3C01293	41,9	48,9	82	4	91,2	87
H3C00443	50	50	90	7	45,5	57,7
H3C02088	60,2	84,4	124	12	224	89
H3C01758	71	83	110	8	161,1	89
H3C01437	73	73	98	7	110	79
H3C02309	85	85	120	4	160	97
H3C01757	90	99,8	146,2	15	280,6	103,2
H3C02310	110	110	141	4	160	122
H3C02311	136	136	167	4	160	148



CATALOGO
COMPONENTI
ANTIVIBRANTI

ANTI-VIBRATION
COMPONENTS
CATALOGUE

MSA Damper è in grado di sviluppare soluzioni completamente personalizzate partendo da disegni tecnici, specifiche di progetto, campioni esistenti tramite processo di reverse engineering o semplici indicazioni funzionali del cliente.

Una volta definita la geometria e le caratteristiche di rigidità del componente, MSA Damper si occupa direttamente della progettazione e realizzazione degli stampi. Questa sezione del catalogo presenta una selezione rappresentativa dei componenti disponibili, scelti tra le numerose soluzioni realizzate su specifica del cliente.

MSA Damper can develop fully customized solutions based on technical drawings, project specifications, existing samples through reverse engineering, or simple functional specifications from the customer.

Once the component's geometry and stiffness characteristics have been defined, MSA Damper takes direct responsibility for the design and manufacturing of the molds. This section of the catalog presents a representative selection of available components, chosen from the numerous solutions created to customer specifications.



SECTION

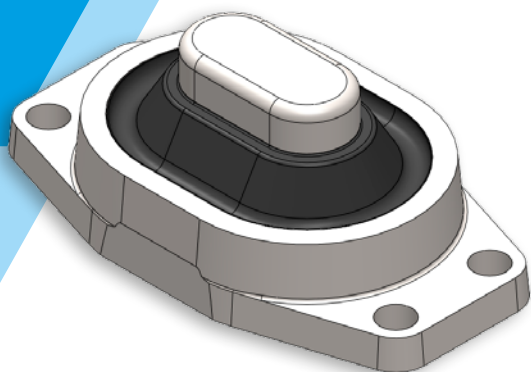
COMPONENTI A SPECIFICA

CUSTOM COMPONENTS

CUSTOM
COMPONENTS

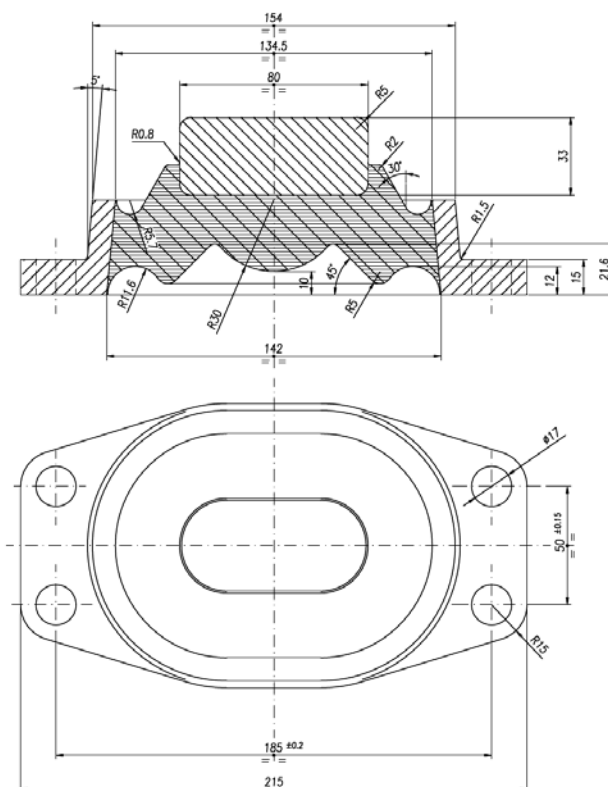
COMPONENTI 44
A SPECIFICA

H3L00902

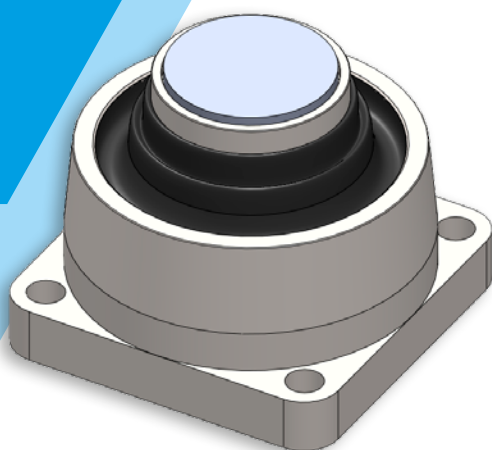


**TAMPONE ELASTICO PER
ARRESTO LATERALE CASSA**

ELASTIC BUFFER
FOR SIDE STOP OF CASE

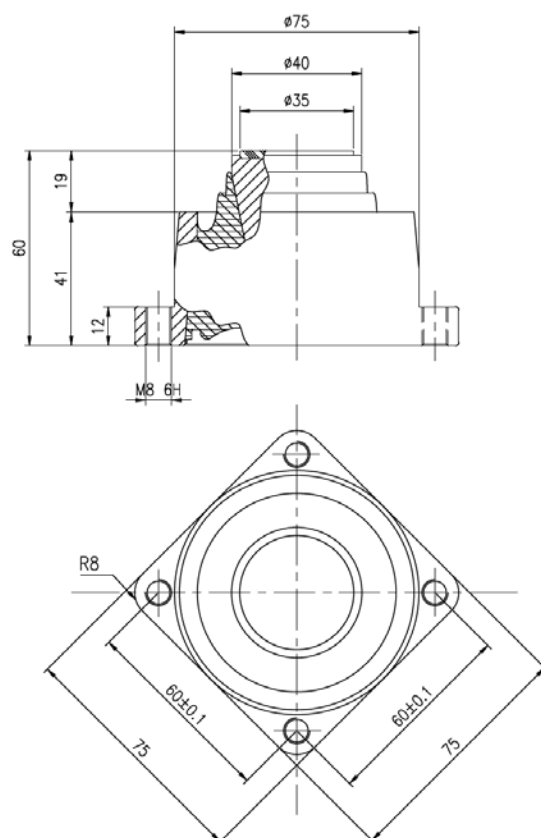


H3L00605

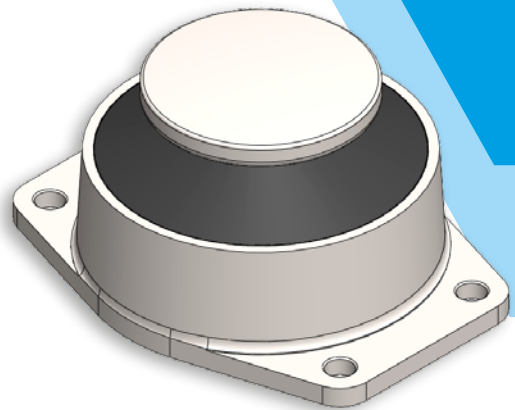
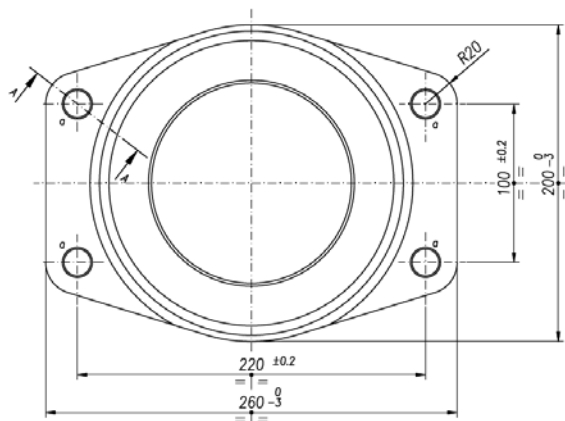
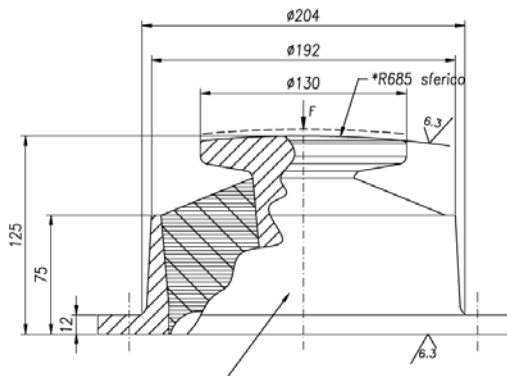


**TAMPONE ORIZZONTALE PER
SOSPENSIONE SECONDARIA**

HORIZONTAL BUFFER
FOR SECONDARY SUSPENSION



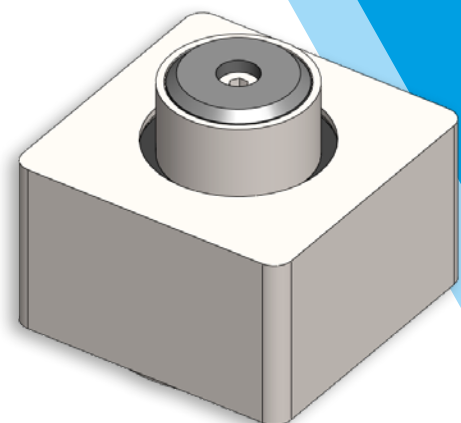
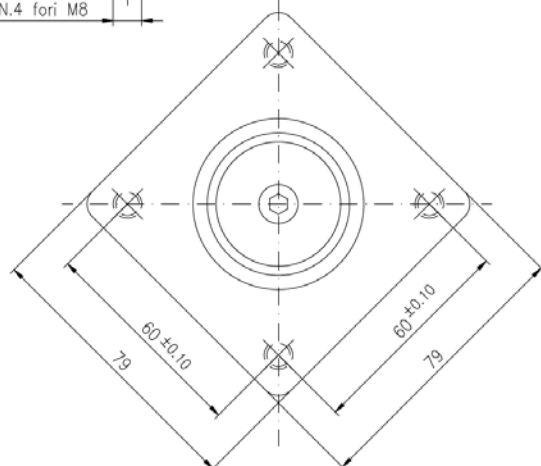
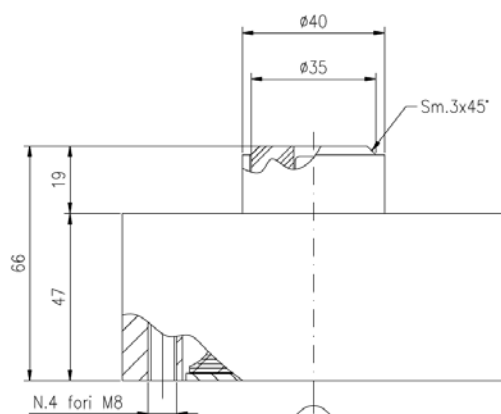
H3L00997



**TAMPONE LATERALE
PER SOSPENSIONE SECONDARIA**

LATERAL BUFFER
FOR SECONDARY SUSPENSION

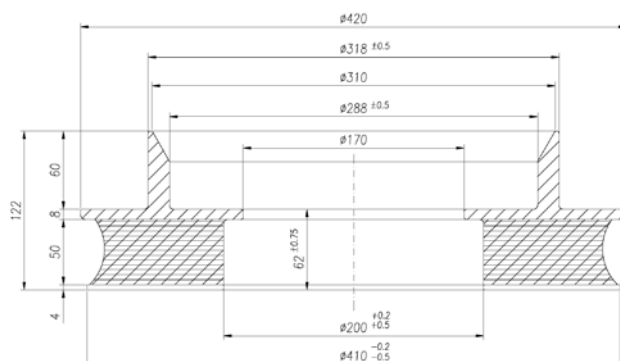
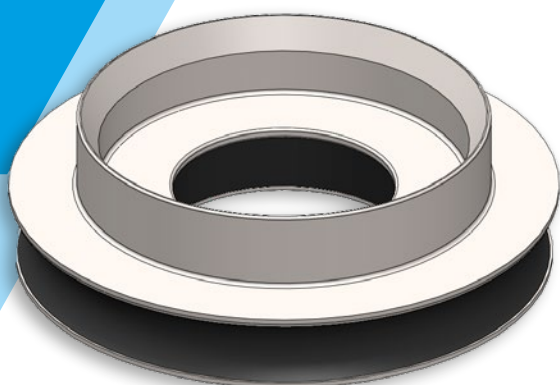
H3L01670



TAMPONE LONGITUDINALE

LONGITUDINAL BUFFER

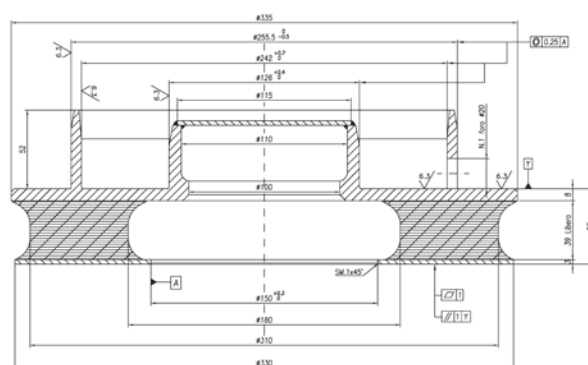
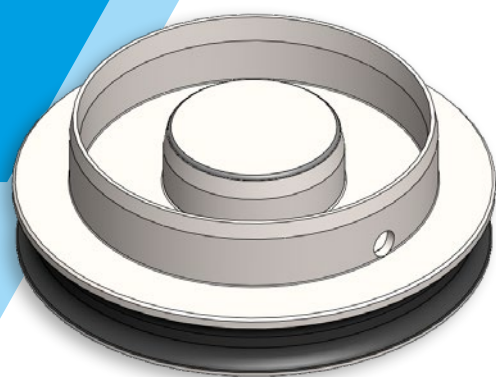
H3L00741



**TASSELLO ELASTICO PER
SOSPENSIONE SECONDARIA**

ELASTIC PLUG
FOR SECONDARY SUSPENSION

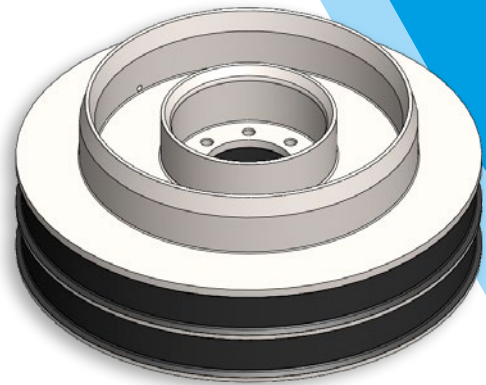
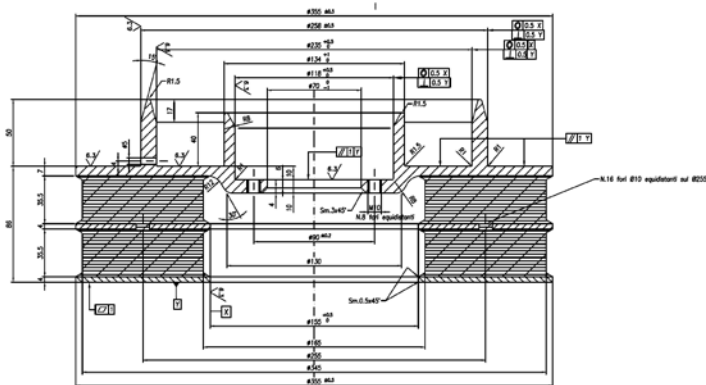
H3L02054



**TASSELLO ELASTICO PER
SOSPENSIONE SECONDARIA**

ELASTIC PLUG
FOR SECONDARY SUSPENSION

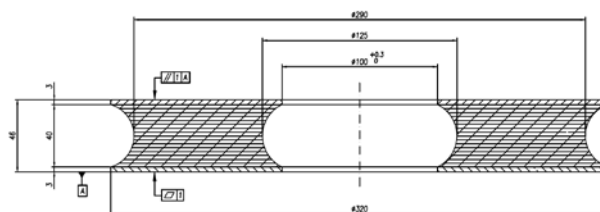
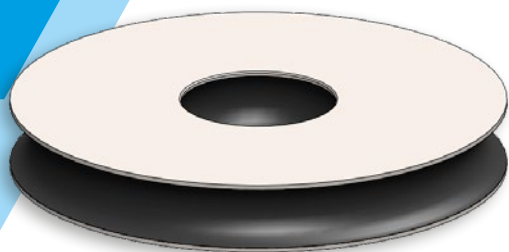
H3L01599



**TASSELLO ELASTICO
PER SOSPENSIONE SECONDARIA**

**ELASTIC PLUG
FOR SECONDARY SUSPENSION**

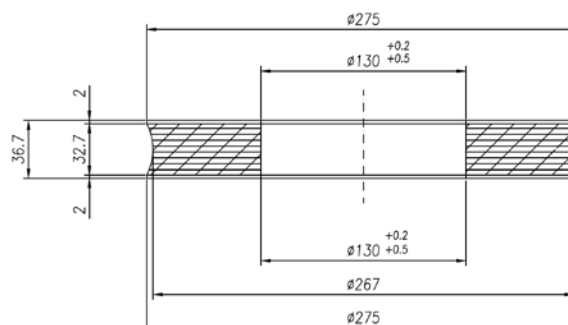
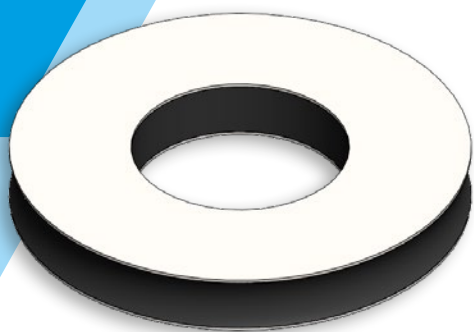
H3L01163



**TASSELLO ELASTICO
PER SOSPENSIONE SECONDARIA**

ELASTIC PLUG
FOR SECONDARY SUSPENSION

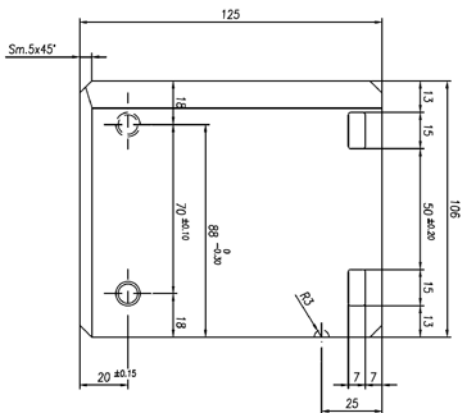
H3L01609



**TASSELLO ELASTICO
PER SOSPENSIONE SECONDARIA**

FLEXIBLE PLUG
FOR SECONDARY SUSPENSION

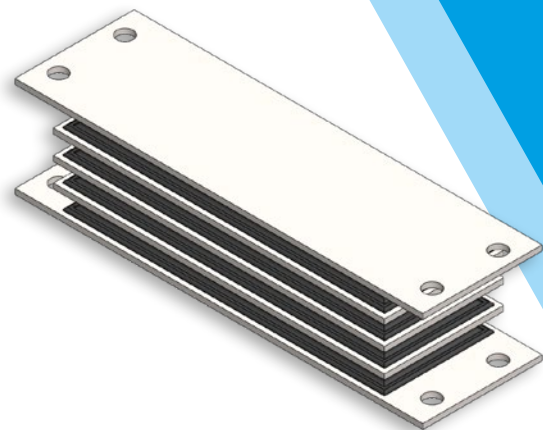
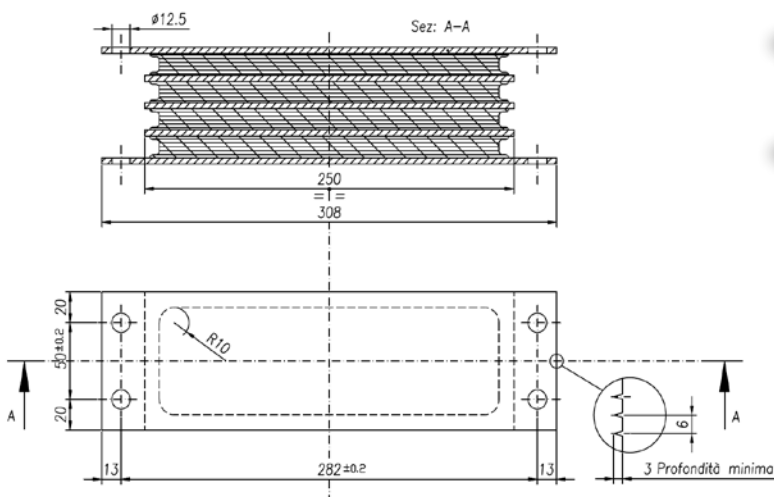
H3L01614



**TASSELLO ELASTICO
PER TRASMISSIONE**

FLEXIBLE PLUG
FOR TRANSMISSION

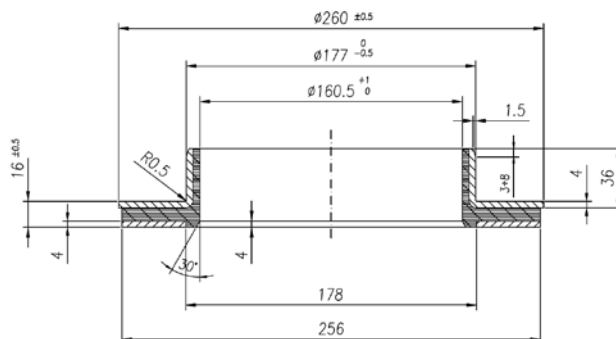
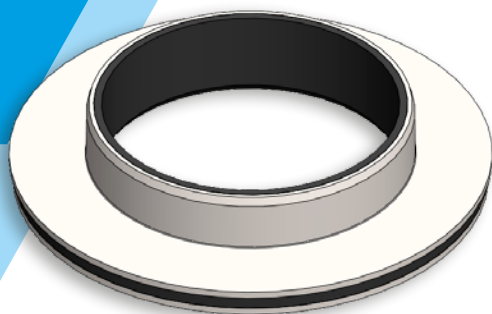
H3L01444



**TASSELLO ELASTICO
FRA BOCCOLA E PARASALA**

FLEXIBLE PLUG
BETWEEN BUSHING AND AXLE GUARD

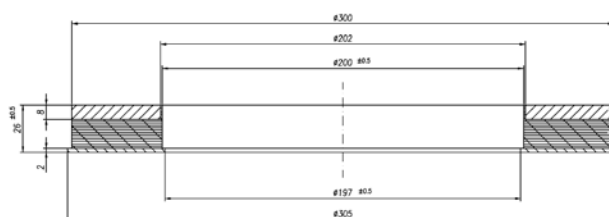
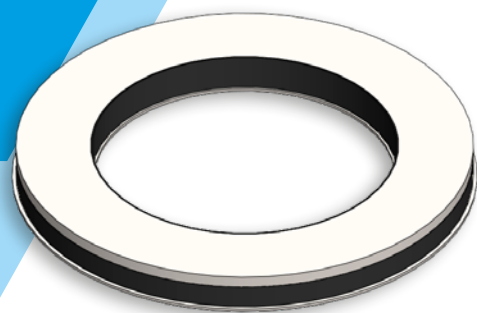
H3L01847



**APPOGGIO IN GOMMA PER
LA SOSPENSIONE PRIMARIA**

RUBBER SUPPORT
FOR PRIMARY SUSPENSION

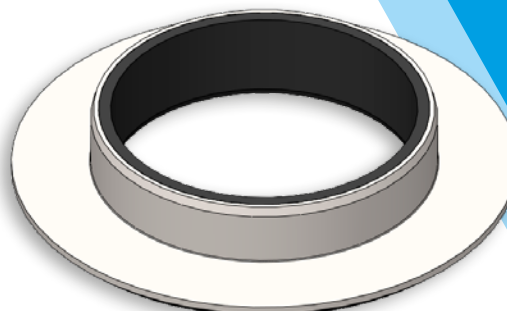
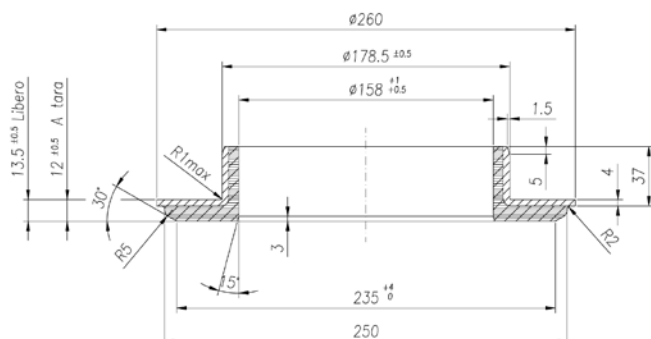
H3L01846



**APPOGGIO IN GOMMA PER
LA SOSPENSIONE SECONDARIA**

RUBBER SUPPORT
FOR SECONDARY SUSPENSION

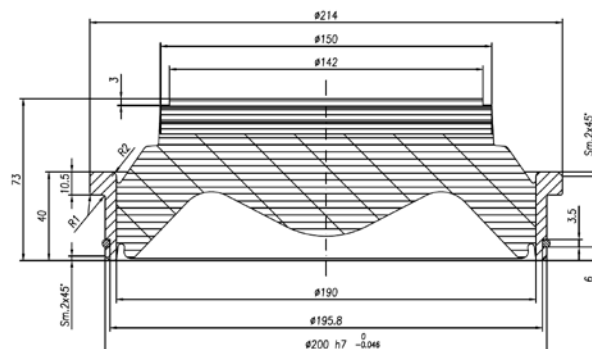
H3L01053



**TASSELLO ELASTICO IN GOMMA-METALLO
PER APOGGIO MOLLA
DELLA SOSPENSIONE PRIMARIA**

RUBBER-METAL FLEXIBLE PLUG
FOR PRIMARY SUSPENSION
SPRING SUPPORT

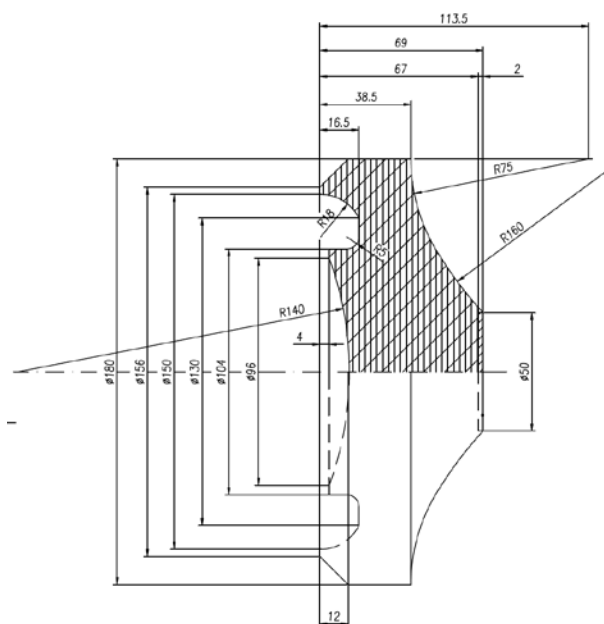
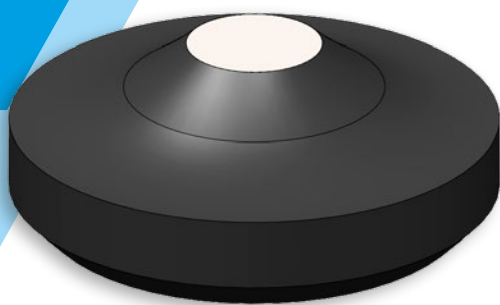
H3L01476



**TAMPONE ELASTICO PER SOSPENSIONE
TRASVERSALE**

FLEXIBLE PLUG FOR TRANSVERSE
SUSPENSION

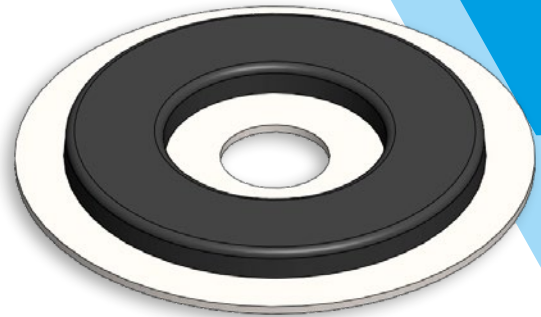
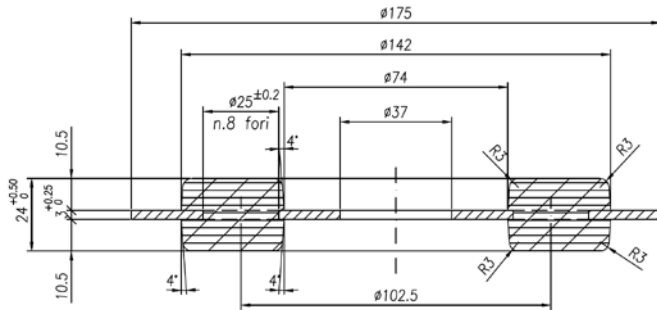
H3L00813



**TASSELLO GOMMA-METALLO PER BATTUTA
LATERALE TRAVE OSCILLANTE**

RUBBER - METAL PLUG
FOR SIDE STOP OSCILLATING BEAM

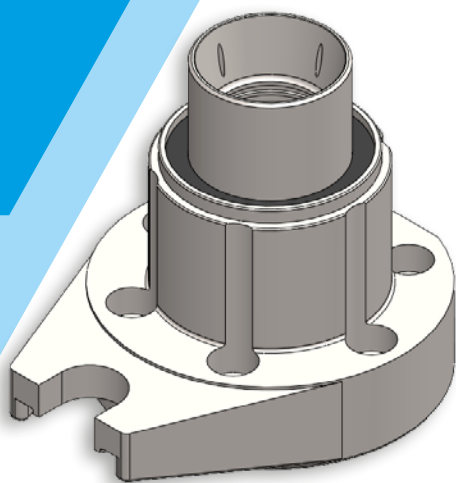
H3L01612



**TASSELLO ELASTICO
PER BATTUTA LONGITUDINALE**

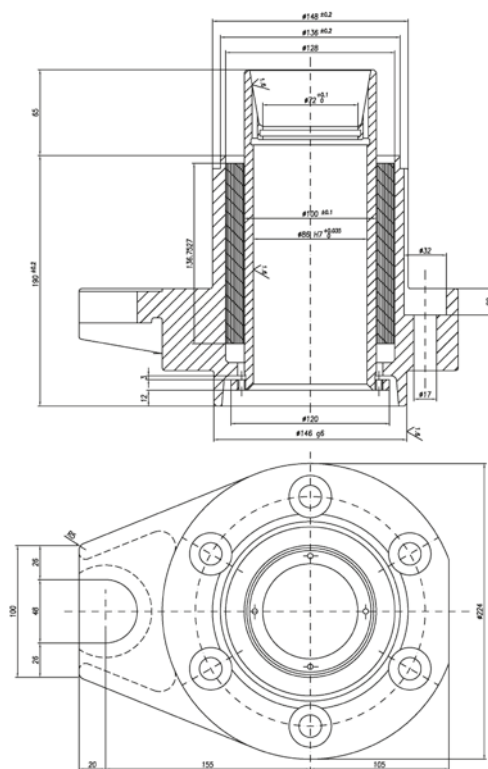
ELASTIC PLUG FOR LONGITUDINAL STOP

H3L01419

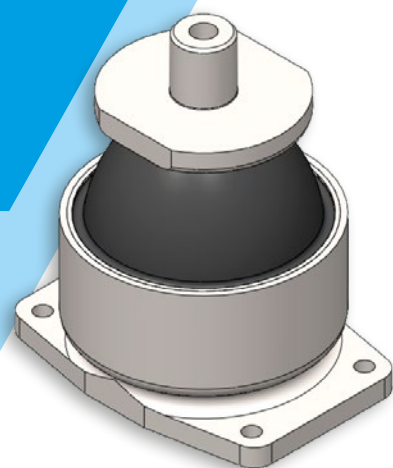


ELEMENTO ELASTICO PER LA SOSPENSIONE PRIMARIA

ELASTIC ELEMENT FOR PRIMARY SUSPENSION

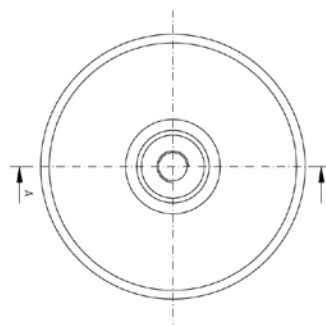
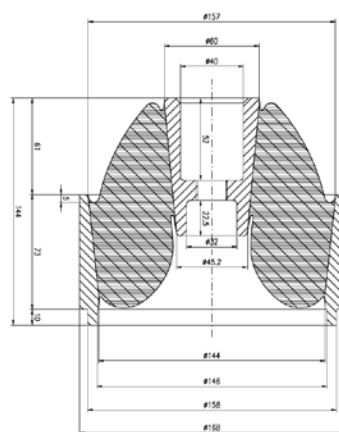


H3L01983

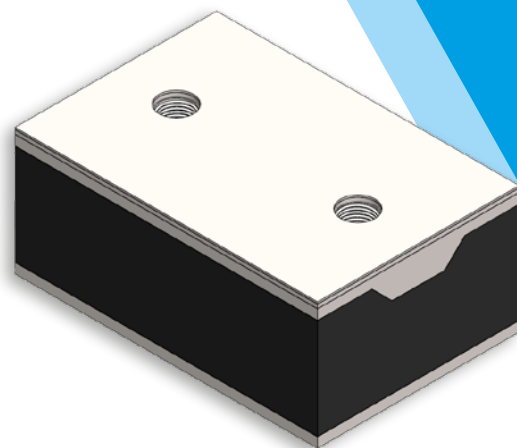
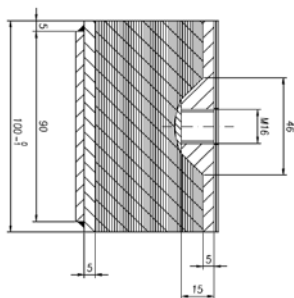
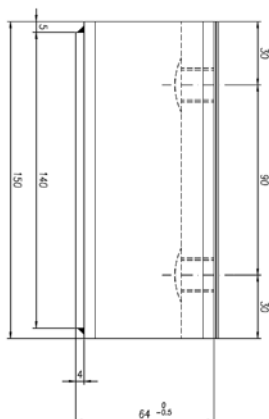


MOLLA CONICA PER SOSPENSIONE PRIMARIA

CONICAL SPRING FOR PRIMARY SUSPENSION



H3L00854



**TASSELLO BATTUTA LATERALE TRAVE
OSCILLANTE**

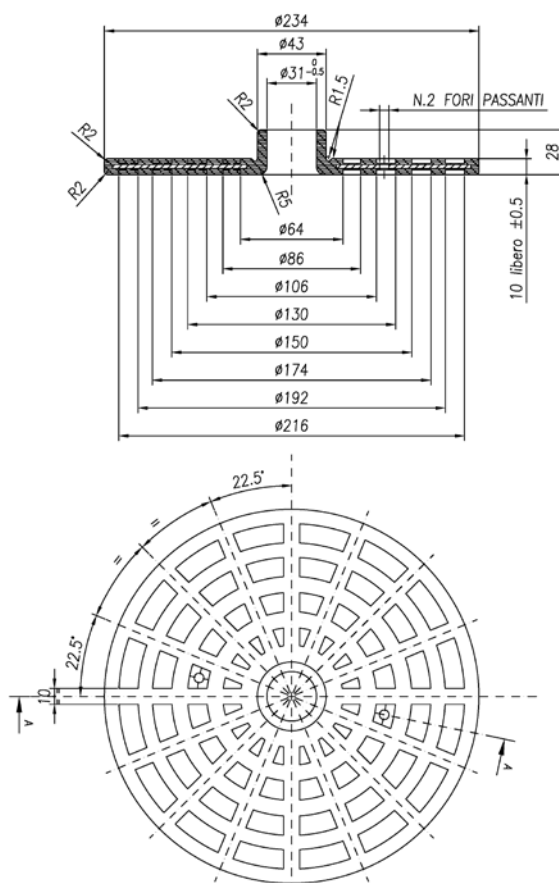
**SIDE STOP PLUG
FOR OSCILLATING BEAM**

H3L02053



TASSELLO ELASTICO PER SOSPENSIONE PRIMARIA

ELASTIC PLUG
FOR PRIMARY SUSPENSION

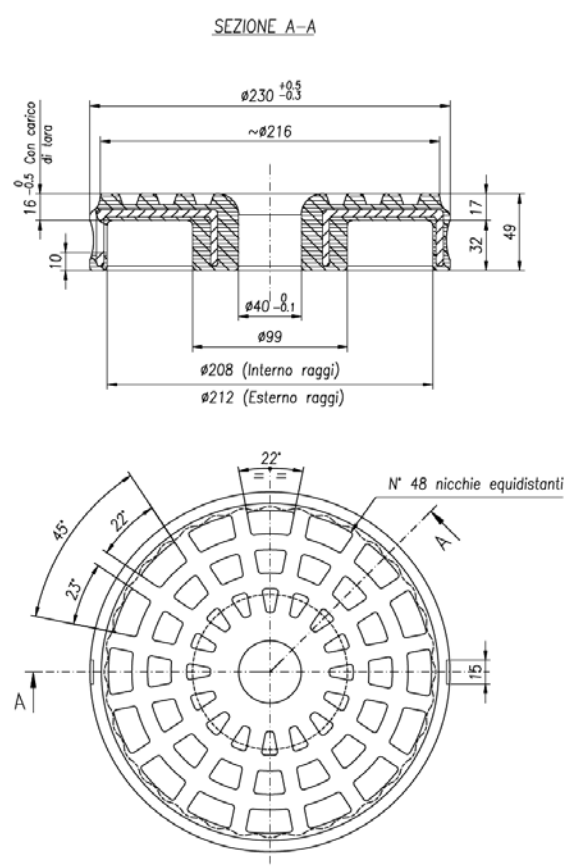


H3L00705



GRIGLIATO MOLLA PER SOSPENSIONE SECONDARIA

SPRING GRID
FOR SECONDARY SUSPENSION



NOTES

This image shows a full page of blank, lined paper. It features approximately 20 horizontal grey lines spaced evenly apart, typical of notebook or legal stationery. The paper is otherwise completely empty, with no text, markings, or illustrations.

[illegible]

