

BOCCOLE ITALIA Srl



 OIL RETAINING SINTERED BEARING



Boccole Italia S.r.l. nasce, come base in Europa, dall'esperienza ventennale della nostra produzione in Shanghai. Si propone sul mercato come unico punto di riferimento per la distribuzione di boccole, boccole con inserti in grafite solida, particolari a disegno (sinterizzati o bimetallici per caterpillar) in resina acetica o in ptef, sagomati, ecc.

L'alta qualità a prezzi competitivi, la professionalità e la cordialità sono il nostro motto.

I tempi di consegna? Mai stati così rapidi.

Avere il materiale pronto direttamente nella Vs. sede in 36 ore, ora si può !!

Boccole Italia S.r.l. è in grado di soddisfare a pieno tutte le Vostre aspettative e di rispondere velocemente alle richieste di rivenditori, utilizzatori finali, azienda meccaniche, aziende di macchinari agricoli, ecc.

La nostra produzione certificata, si espande su una superficie di oltre 20.000 mq.

La struttura è composta da:

- Reparto di Ricerca & Sviluppo
- Laboratori Test
- Assemblaggio
- Rettifica
- Trattamento Termico

I controlli ferrei e l'utilizzo di macchinari automatici altamente tecnologici e sempre all'avanguardia garantisce la qualità inconfondibile dei prodotti. La produzione giornaliera di oltre 2.000.000 di pezzi per singolo macchinario, permette di avere nella nostra sede il materiale sempre disponibile.

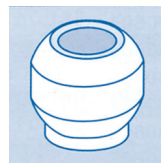
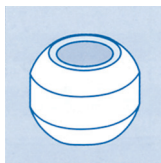
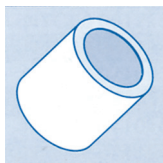
BRIEF INTRODUCTION

MSB sintered bushing made of bronze or iron powder, mold pressed in high pressure, sintered in high temperature and oil soaked in vacuum. The products is widely used in electric appliances, electric tools, textiles machinery, chemical machinery and automobile industry, etc.

PHYSICAL AND MECHANICAL PROPERTY

PERFORMANCE INDEX	DATA
Maximum load capacity	150 N/mm ²
Temperature range	-60°C~ + 200°C
Maximum sliding speed	2.5 m/s
Alloy material	CuSn6-6-3
Maximum PV value	2.45 N/mm ² •m/s

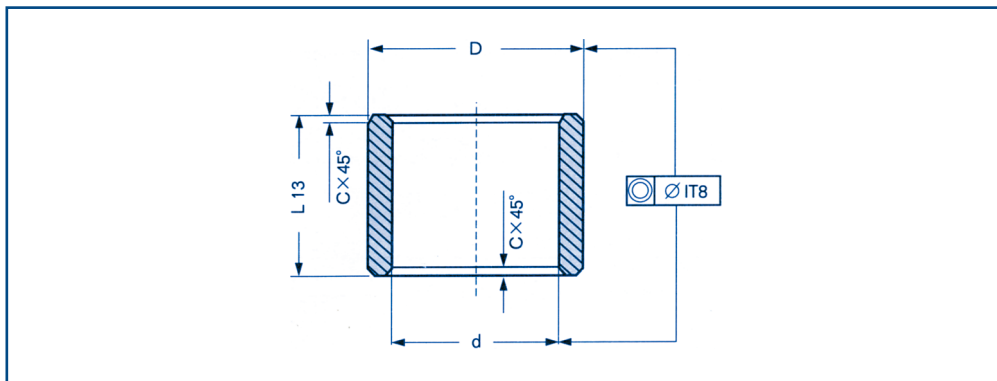
SHAPE OF MSB SINTERED BUSHING



MATERIAL AND BASIC METAL

MATERIAL CODE	BASIC METAL	ALLOY COMPOSITION
MSB1 Bronze based	SAE841 ASTM B438-70 GR1 Type II DIN30 910 PART3SintA50 Mil-B-5687C Type I CompA	Cu87.5~90.5,Fe1.0max,Sn9.5~10.5,P1.75,0.5
MSB2 Iron based	SAE863 Type3 SATM B439-70 GR4 Mil-B-5687C Type II CompB	Cu18.0~22.0,Fe2.0 ALLOW ANCE

MSB SINTERED BUSHING



ORDERING EXAMPLE: MSB1 020502

PART NUMBER	ID	OD	LENGTH	CHAMFER
MSB 020502			2±0.070	
MSB 020503	2 ^{+0.012} _{+0.002}	5 ^{+0.031} _{+0.019}	3±0.070	
MSB 020503			3±0.070	
MSB 020504	2 ^{+0.012} _{+0.002}	5 ^{+0.031} _{+0.019}	4±0.090	
MSB 020506			6±0.090	
MSB 030603			3±0.070	
MSB 030604			4±0.090	
MSB 030605	3 ^{+0.012} _{+0.002}	6 ^{+0.031} _{+0.019}	5±0.090	
MSB 030606			6±0.090	
MSB 030607			7±0.110	
MSB 030610			10±0.110	
MSB 040605			5±0.090	
MSB 040608	4 ^{+0.016} _{+0.004}	6 ^{+0.031} _{+0.019}	8±0.110	
MSB 040610			10±0.110	
MSB 040703			3±0.070	
MSB 040704			4±0.090	
MSB 040706	4 ^{+0.016} _{+0.004}	7 ^{+0.038} _{+0.023}	6±0.090	
MSB 040708			8±0.110	0.3
MSB 040712			12±0.135	
MSB 040804			4±0.090	
MSB 040805			5±0.090	
MSB 040806			6±0.090	
MSB 040808	4 ^{+0.016} _{+0.004}	8 ^{+0.038} _{+0.023}	8±0.110	
MSB 040810			10±0.110	
MSB 040812			12±0.135	
MSB 050804			4±0.090	
MSB 050805			5±0.090	
MSB 050808			8±0.110	
MSB 050810			10±0.110	
MSB 050812	5 ^{+0.016} _{+0.004}	8 ^{+0.038} _{+0.023}	12±0.135	
MSB 050815			15±0.135	
MSB 050816			16±0.135	

PART NUMBER	ID	OD	LENGTH	CHAMFER
MSB 050904			4±0.090	
MSB 050905	5 ^{+0.016} _{+0.004}	9 ^{+0.038} _{+0.023}	5±0.090	
MSB 050908			8±0.110	
MSB 050910			10±0.110	
MSB 051005			5±0.090	
MSB 051010	5 ^{+0.016} _{+0.004}	10 ^{+0.038} _{+0.023}	10±0.110	
MSB 051012			12±0.135	
MSB 051015			15±0.135	
MSB 060904			4±0.090	
MSB 060906			6±0.090	
MSB 060910	6 ^{+0.016} _{+0.004}	9 ^{+0.038} _{+0.023}	10±0.110	
MSB 060912			12±0.135	
MSB 060916			16±0.135	
MSB 061004			4±0.090	
MSB 061005			5±0.090	
MSB 061006			6±0.090	
MSB 061010	6 ^{+0.016} _{+0.004}	10 ^{+0.038} _{+0.023}	10±0.110	
MSB 061012			12±0.135	
MSB 061015			15±0.135	
MSB 061016			16±0.135	
MSB 061205			5±0.090	
MSB 061206			6±0.090	
MSB 061210			10±0.110	
MSB 061212	6 ^{+0.016} _{+0.004}	12 ^{+0.046} _{+0.028}	12±0.135	
MSB 061215			15±0.135	
MSB 061216			16±0.135	0.3
MSB 071005			5±0.090	
MSB 071008	7 ^{+0.020} _{+0.005}	10 ^{+0.046} _{+0.028}	8±0.110	
MSB 071010			10±0.110	
MSB 071108			8±0.110	
MSB 071110	7 ^{+0.020} _{+0.005}	11 ^{+0.046} _{+0.028}	10±0.110	
MSB 081006			6±0.090	
MSB 081010	8 ^{+0.020} _{+0.005}	10 ^{+0.046} _{+0.028}	10±0.110	
MSB 081015			15±0.135	
MSB 081106			6±0.090	
MSB 081108			8±0.110	
MSB 081112	8 ^{+0.020} _{+0.005}	11 ^{+0.046} _{+0.028}	12±0.135	
MSB 081116			16±0.135	
MSB 081120			20±0.165	
MSB 081206			6±0.090	
MSB 081208			8±0.110	
MSB 081210			10±0.110	
MSB 081212	8 ^{+0.020} _{+0.005}	12 ^{+0.046} _{+0.028}	12±0.135	
MSB 081215			15±0.135	
MSB 081216			16±0.135	
MSB 081220			20±0.165	
MSB 081408			8±0.110	
MSB 081410			10±0.110	
MSB 081412	8 ^{+0.020} _{+0.005}	14 ^{+0.046} _{+0.028}	12±0.135	
MSB 081415			15±0.135	
MSB 081416			16±0.135	

PART NUMBER	ID	OD	LENGTH	CHAMFER
MSB 081420	8 ^{+0.020} _{+0.005}	14 ^{+0.046} _{+0.028}	20±0.165	
MSB 091206			6±0.090	
MSB 091210	9 ^{+0.020} _{+0.005}	12 ^{+0.046} _{+0.028}	10±0.110	
MSB 091214			14±0.135	
MSB 091406			6±0.090	0.3
MSB 091410			10±0.110	
MSB 091412			12±0.135	
MSB 091414	9 ^{+0.020} _{+0.005}	14 ^{+0.046} _{+0.028}	14±0.135	
MSB 091415			15±0.135	
MSB 091420			20±0.165	
MSB 101310			10±0.110	
MSB 101312			12±0.135	
MSB 101315			15±0.135	
MSB 101316	10 ^{+0.020} _{+0.005}	13 ^{+0.046} _{+0.028}	16±0.135	
MSB 101320			20±0.165	
MSB 101325			25±0.165	
MSB 101408			8±0.110	
MSB 101410			10±0.110	
MSB 101416	10 ^{+0.020} _{+0.005}	14 ^{+0.046} _{+0.028}	16±0.135	
MSB 101420			20±0.165	
MSB 101425			25±0.165	
MSB 101510			10±0.110	
MSB 101512			12±0.135	
MSB 101515			15±0.135	
MSB 101516	10 ^{+0.020} _{+0.005}	15 ^{+0.046} _{+0.028}	16±0.135	0.4
MSB 101520			20±0.165	
MSB 101525			25±0.165	
MSB 101608			8±0.110	
MSB 101610			10±0.110	
MSB 101612			12±0.135	
MSB 101615	10 ^{+0.020} _{+0.005}	16 ^{+0.046} _{+0.028}	15±0.135	
MSB 101616			16±0.135	
MSB 101620			20±0.165	
MSB 101625			25±0.165	
MSB 101810			10±0.110	
MSB 101812			12±0.135	
MSB 101815	10 ^{+0.020} _{+0.005}	18 ^{+0.046} _{+0.028}	15±0.135	
MSB 101820			20±0.165	
MSB 101825			25±0.165	
MSB 121410			10±0.110	
MSB 121412			12±0.135	
MSB 121415	12 ^{+0.024} _{+0.006}	14 ^{+0.046} _{+0.028}	15±0.135	
MSB 121420			20±0.165	
MSB 121510			10±0.110	
MSB 121512			12±0.135	
MSB 121515			15±0.135	
MSB 121516	12 ^{+0.024} _{+0.006}	15 ^{+0.046} _{+0.028}	16±0.135	
MSB 121520			20±0.165	
MSB 121525			25±0.165	
MSB 121608	12 ^{+0.024} _{+0.006}	16 ^{+0.046} _{+0.028}	8±0.110	
MSB 121610			10±0.110	

PART NUMBER	ID	OD	LENGTH	CHAMFER
MSB 121612			12±0.135	
MSB 121615			15±0.135	
MSB 121616	12 ^{+0.024} _{+0.006}	16 ^{+0.046} _{+0.028}	16±0.135	
MSB 121620			20±0.165	
MSB 121625			25±0.165	
MSB 121712			12±0.135	
MSB 121715			15±0.135	
MSB 121716	12 ^{+0.024} _{+0.006}	17 ^{+0.046} _{+0.028}	16±0.135	
MSB 121720			20±0.165	
MSB 121725			25±0.165	
MSB 121808			8±0.110	
MSB 121810			10±0.110	
MSB 121812			12±0.135	
MSB 121815	12 ^{+0.024} _{+0.006}	18 ^{+0.046} _{+0.028}	15±0.135	
MSB 121816			16±0.135	
MSB 121820			20±0.165	
MSB 121825			25±0.165	
MSB 121830			30±0.165	
MSB 122012			12±0.135	
MSB 122015			15±0.135	
MSB 122020	12 ^{+0.024} _{+0.006}	20 ^{+0.056} _{+0.035}	20±0.165	
MSB 122025			25±0.165	
MSB 122030			30±0.165	
MSB 141810			10±0.110	
MSB 141814			14±0.135	
MSB 141815			15±0.135	
MSB 141818	14 ^{+0.024} _{+0.006}	18 ^{+0.046} _{+0.028}	18±0.135	
MSB 141820			20±0.165	0.4
MSB 141822			22±0.165	
MSB 141825			25±0.165	
MSB 141828			28±0.165	
MSB 142010			10±0.110	
MSB 142014			14±0.135	
MSB 142015			15±0.135	
MSB 142018			18±0.135	
MSB 142020	14 ^{+0.024} _{+0.006}	20 ^{+0.056} _{+0.035}	20±0.165	
MSB 142022			22±0.165	
MSB 142025			25±0.165	
MSB 142028			28±0.165	
MSB 142030			30±0.165	
MSB 142215			15±0.135	
MSB 142220	14 ^{+0.024} _{+0.006}	22 ^{+0.056} _{+0.035}	20±0.165	
MSB 142225			25±0.165	
MSB 142230			30±0.165	
MSB 151815			15±0.135	
MSB 151820	15 ^{+0.024} _{+0.006}	18 ^{+0.046} _{+0.028}	20±0.165	
MSB 151825			25±0.165	
MSB 151830			30±0.165	
MSB 151910			10±0.110	
MSB 151915	15 ^{+0.024} _{+0.006}	19 ^{+0.056} _{+0.035}	15±0.135	
MSB 151916			16±0.135	

PART NUMBER	ID	OD	LENGTH	CHAMFER
MSB 151920			20±0.165	
MSB 151925	15 ^{+0.024} _{+0.006}	19 ^{+0.056} _{+0.035}	25±0.165	
MSB 151930			30±0.165	
MSB 151932			32±0.195	
MSB 152015			15±0.135	
MSB 152020	15 ^{+0.024} _{+0.006}	20 ^{+0.056} _{+0.035}	20±0.165	
MSB 152025			25±0.165	
MSB 152030			30±0.165	
MSB 152115			15±0.135	
MSB 152116			16±0.135	
MSB 152120	15 ^{+0.024} _{+0.006}	21 ^{+0.056} _{+0.035}	20±0.165	
MSB 152125			25±0.165	
MSB 152132			32±0.195	
MSB 152215			15±0.135	
MSB 152220			20±0.165	
MSB 152225	15 ^{+0.024} _{+0.006}	22 ^{+0.056} _{+0.035}	25±0.165	
MSB 152230			30±0.165	
MSB 162012			12±0.135	
MSB 162015			15±0.135	
MSB 162016			16±0.135	
MSB 162020	16 ^{+0.024} _{+0.006}	20 ^{+0.056} _{+0.035}	20±0.165	
MSB 162025			25±0.165	
MSB 162030			30±0.165	
MSB 162032			32±0.195	
MSB 162212			12±0.135	
MSB 162215			15±0.135	
MSB 162216			16±0.135	
MSB 162220	16 ^{+0.024} _{+0.006}	22 ^{+0.056} _{+0.035}	20±0.165	0.4
MSB 162225			25±0.165	
MSB 162230			30±0.165	
MSB 162232			32±0.195	
MSB 162235			35±0.195	
MSB 172215			15±0.135	
MSB 172220			20±0.165	
MSB 172225	17 ^{+0.024} _{+0.006}	22 ^{+0.056} _{+0.035}	25±0.165	
MSB 172230			30±0.165	
MSB 172235			35±0.195	
MSB 182212			12±0.135	
MSB 182215			15±0.135	
MSB 182218			18±0.135	
MSB 182220			20±0.165	
MSB 182222	18 ^{+0.024} _{+0.006}	22 ^{+0.056} _{+0.035}	22±0.165	
MSB 182225			25±0.165	
MSB 182228			28±0.165	
MSB 182230			30±0.165	
MSB 182236			36±0.195	
MSB 182418			18±0.135	
MSB 182420			20±0.165	
MSB 182422	18 ^{+0.024} _{+0.006}	24 ^{+0.056} _{+0.035}	22±0.165	
MSB 182425			25±0.165	
MSB 182428			28±0.165	

PART NUMBER	ID	OD	LENGTH	CHAMFER
MSB 182430			30±0.165	
MSB 182435	18 ^{+0.024} _{+0.006}	24 ^{+0.056} _{+0.035}	35±0.195	
MSB 182436			36±0.195	
MSB 182518			18±0.135	
MSB 182522			22±0.165	
MSB 182525	18 ^{+0.024} _{+0.006}	25 ^{+0.056} _{+0.035}	25±0.165	
MSB 182528			28±0.165	
MSB 182530			30±0.165	
MSB 182536			36±0.195	
MSB 202416			16±0.135	
MSB 202420	20 ^{+0.028} _{+0.007}	24 ^{+0.056} _{+0.035}	20±0.165	
MSB 202425			25±0.165	
MSB 202432			32±0.195	
MSB 202515			15±0.135	
MSB 202516			16±0.135	
MSB 202520			20±0.165	
MSB 202525	20 ^{+0.028} _{+0.007}	25 ^{+0.056} _{+0.035}	25±0.165	
MSB 202530			30±0.165	
MSB 202532			32±0.195	
MSB 202535			35±0.195	
MSB 202615			15±0.135	
MSB 202616			16±0.135	
MSB 202620			20±0.165	
MSB 202625	20 ^{+0.028} _{+0.007}	26 ^{+0.056} _{+0.035}	25±0.165	0.4
MSB 202630			30±0.165	
MSB 202632			32±0.195	
MSB 202635			35±0.195	
MSB 202640			40±0.195	
MSB 202716			16±0.135	
MSB 202720	20 ^{+0.028} _{+0.007}	27 ^{+0.056} _{+0.035}	20±0.165	
MSB 202725			25±0.165	
MSB 202732			32±0.195	
MSB 202816			16±0.135	
MSB 202820			20±0.165	
MSB 202825			25±0.165	
MSB 202830	20 ^{+0.028} _{+0.007}	28 ^{+0.056} _{+0.035}	30±0.165	
MSB 202832			32±0.195	
MSB 202835			35±0.195	
MSB 202850			50±0.195	
MSB 203020			20±0.165	
MSB 203025			25±0.165	
MSB 203030	20 ^{+0.028} _{+0.007}	30 ^{+0.056} _{+0.035}	30±0.165	
MSB 203035			35±0.195	
MSB 203040			40±0.195	
MSB 222715			15±0.135	
MSB 222718			18±0.135	
MSB 222720			20±0.165	
MSB 222722	22 ^{+0.028} _{+0.007}	27 ^{+0.056} _{+0.035}	22±0.165	
MSB 222725			25±0.165	
MSB 222728			28±0.165	
MSB 222730			30±0.165	

PART NUMBER	ID	OD	LENGTH	CHAMFER
MSB 222735			35±0.195	
MSB 222736	22 ^{+0.028} _{+0.007}	27 ^{+0.056} _{+0.035}	36±0.195	
MSB 222740			40±0.195	
MSB 222815			15±0.135	
MSB 222818			18±0.135	
MSB 222820			20±0.165	
MSB 222822			22±0.165	
MSB 222825	22 ^{+0.028} _{+0.007}	28 ^{+0.056} _{+0.035}	25±0.165	
MSB 222828			28±0.165	
MSB 222830			30±0.165	0.4
MSB 222835			35±0.195	
MSB 222836			36±0.195	
MSB 222840			40±0.195	
MSB 222918			18±0.135	
MSB 222922	22 ^{+0.028} _{+0.007}	29 ^{+0.056} _{+0.035}	22±0.165	
MSB 222928			28±0.165	
MSB 222936			36±0.195	
MSB 223220	22 ^{+0.028} _{+0.007}	32 ^{+0.068} _{+0.043}	20±0.135	
MSB 223250			50±0.195	
MSB 253020			20±0.165	
MSB 253025			25±0.165	
MSB 253030			30±0.165	
MSB 253032	25 ^{+0.028} _{+0.007}	30 ^{+0.056} _{+0.035}	32±0.195	
MSB 253035			35±0.195	
MSB 253040			40±0.195	
MSB 253050			50±0.195	
MSB 253220			20±0.165	
MSB 253225			25±0.165	
MSB 253230			30±0.165	
MSB 253232	25 ^{+0.028} _{+0.007}	32 ^{+0.068} _{+0.043}	32±0.195	
MSB 253235			35±0.195	
MSB 253240			40±0.195	
MSB 253245			45±0.195	
MSB 253525			25±0.165	
MSB 253530			30±0.165	
MSB 253535	25 ^{+0.028} _{+0.007}	35 ^{+0.068} _{+0.043}	35±0.195	0.6
MSB 253540			40±0.195	
MSB 253545			45±0.195	
MSB 253550			50±0.195	
MSB 283222			22±0.165	
MSB 283228	28 ^{+0.028} _{+0.007}	32 ^{+0.068} _{+0.043}	28±0.165	
MSB 283236			36±0.195	
MSB 283245			45±0.195	
MSB 283320			20±0.165	
MSB 283322			22±0.165	
MSB 283328	28 ^{+0.028} _{+0.007}	33 ^{+0.068} _{+0.043}	28±0.165	
MSB 283330			30±0.165	
MSB 283336			36±0.195	
MSB 283345			45±0.195	
MSB 283525	28 ^{+0.028} _{+0.007}	35 ^{+0.068} _{+0.043}	25±0.165	
MSB 283530			30±0.165	

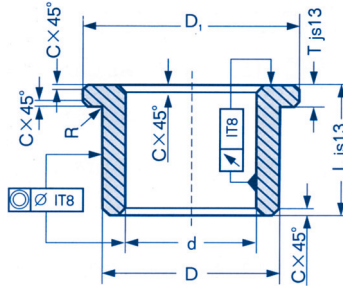
PART NUMBER	ID	OD	LENGTH	CHAMFER
MSB 283535			35±0.195	
MSB 283540	28 ^{+0.028} _{+0.007}	35 ^{+0.068} _{+0.043}	40±0.195	
MSB 283545			45±0.195	
MSB 283550			50±0.195	
MSB 283620			20±0.165	
MSB 283622			22±0.165	
MSB 283625			25±0.165	
MSB 283628			28±0.165	
MSB 283630	28 ^{+0.028} _{+0.007}	36 ^{+0.068} _{+0.043}	30±0.165	
MSB 283635			35±0.195	
MSB 283636			36±0.195	
MSB 283640			40±0.195	
MSB 283645			45±0.195	
MSB 283650			50±0.195	
MSB 303520			20±0.165	
MSB 303525			25±0.165	
MSB 303530			30±0.165	
MSB 303535	30 ^{+0.028} _{+0.007}	35 ^{+0.068} _{+0.043}	35±0.195	
MSB 303540			40±0.195	
MSB 303545			45±0.195	
MSB 303550			50±0.195	
MSB 303630			30±0.165	
MSB 303635			35±0.195	
MSB 303640	30 ^{+0.028} _{+0.007}	36 ^{+0.068} _{+0.043}	40±0.195	
MSB 303645			45±0.195	
MSB 303650			50±0.195	0.6
MSB 303820			20±0.165	
MSB 303824			24±0.165	
MSB 303825			25±0.165	
MSB 303830			30±0.165	
MSB 303835	30 ^{+0.028} _{+0.007}	38 ^{+0.068} _{+0.043}	35±0.195	
MSB 303838			38±0.195	
MSB 303840			40±0.195	
MSB 303845			45±0.195	
MSB 303850			50±0.195	
MSB 304020			20±0.165	
MSB 304025			25±0.165	
MSB 304030			30±0.165	
MSB 304035	30 ^{+0.028} _{+0.007}	40 ^{+0.068} _{+0.043}	35±0.195	
MSB 304040			40±0.195	
MSB 304045			45±0.195	
MSB 304050			50±0.195	
MSB 323820			20±0.165	
MSB 323825			25±0.165	
MSB 323830	32 ^{+0.034} _{+0.009}	38 ^{+0.068} _{+0.043}	30±0.165	
MSB 323832			32±0.195	
MSB 323840			40±0.195	
MSB 323850			50±0.195	
MSB 324020			20±0.165	
MSB 324025	32 ^{+0.034} _{+0.009}	40 ^{+0.068} _{+0.043}	25±0.165	
MSB 324030			30±0.165	

PART NUMBER	ID	OD	LENGTH	CHAMFER
MSB 324032			32±0.195	
MSB 324035			35±0.195	
MSB 324040	32 ^{+0.034} _{+0.009}	40 ^{+0.068} _{+0.043}	40±0.195	0.6
MSB 324045			45±0.195	
MSB 324050			50±0.195	
MSB 354020			20±0.165	
MSB 354025			25±0.165	
MSB 354030			30±0.165	
MSB 354035	35 ^{+0.034} _{+0.009}	40 ^{+0.068} _{+0.043}	35±0.195	
MSB 354040			40±0.195	
MSB 354045			45±0.195	
MSB 354050			50±0.195	
MSB 354125			25±0.165	
MSB 354135	35 ^{+0.034} _{+0.009}	41 ^{+0.068} _{+0.043}	35±0.195	
MSB 354140			40±0.195	
MSB 354422			22±0.165	
MSB 354428	35 ^{+0.034} _{+0.009}	44 ^{+0.068} _{+0.043}	28±0.165	
MSB 354435			35±0.195	
MSB 354525			25±0.165	
MSB 354530			30±0.165	
MSB 354535			35±0.195	
MSB 354540	35 ^{+0.034} _{+0.009}	45 ^{+0.068} _{+0.043}	40±0.195	
MSB 354545			45±0.195	
MSB 354550			50±0.195	
MSB 354560			60±0.230	
MSB 364222			22±0.165	0.7
MSB 364228			28±0.165	
MSB 364236	36 ^{+0.034} _{+0.009}	42 ^{+0.068} _{+0.043}	36±0.195	
MSB 364245			45±0.195	
MSB 364522			22±0.165	
MSB 364528			28±0.165	
MSB 364536	36 ^{+0.034} _{+0.009}	45 ^{+0.068} _{+0.043}	36±0.195	
MSB 364545			45±0.195	
MSB 384425			25±0.165	
MSB 384435	38 ^{+0.034} _{+0.009}	44 ^{+0.068} _{+0.043}	35±0.195	
MSB 384445			45±0.195	
MSB 384835			35±0.195	
MSB 384845	38 ^{+0.034} _{+0.009}	48 ^{+0.068} _{+0.043}	45±0.195	
MSB 384855			55±0.230	
MSB 404535			35±0.195	
MSB 404540			40±0.195	
MSB 404545	40 ^{+0.034} _{+0.009}	45 ^{+0.068} _{+0.043}	45±0.195	
MSB 404550			50±0.195	
MSB 404625			25±0.165	
MSB 404630			30±0.165	
MSB 404632	40 ^{+0.034} _{+0.009}	46 ^{+0.068} _{+0.043}	32±0.195	
MSB 404640			40±0.195	
MSB 404650			50±0.195	
MSB 405025			25±0.165	
MSB 405030	40 ^{+0.034} _{+0.009}	50 ^{+0.068} _{+0.043}	30±0.165	
MSB 405032			32±0.195	

PART NUMBER	ID	OD	LENGTH	CHAMFER
MSB 405035			35±0.195	
MSB 405040			40±0.195	
MSB 405045	40 ^{+0.034} _{+0.009}	50 ^{+0.068} _{+0.043}	45±0.195	
MSB 405050			50±0.195	
MSB 405060			60±0.230	
MSB 424840	42 ^{+0.034} _{+0.009}	48 ^{+0.068} _{+0.043}	40±0.195	
MSB 424850			50±0.195	
MSB 425240	42 ^{+0.034} _{+0.009}	52 ^{+0.083} _{+0.053}	40±0.195	
MSB 425250			50±0.195	
MSB 455128			28±.0165	
MSB 455135			35±0.195	
MSB 455136			36±0.195	
MSB 455145	45 ^{+0.034} _{+0.009}	51 ^{+0.083} _{+0.053}	45±0.195	
MSB 455155			55±0.230	
MSB 455156			56±0.230	
MSB 455530			30±0.165	
MSB 455535			35±0.195	
MSB 455540			40±0.195	
MSB 455545			45±0.195	
MSB 455550	45 ^{+0.034} _{+0.009}	55 ^{+0.083} _{+0.053}	50±0.195	
MSB 455555			55±0.230	
MSB 455560			60±0.230	
MSB 455565			65±0.230	
MSB 455628			28±0.165	0.7
MSB 455635			35±0.195	
MSB 455636	45 ^{+0.034} _{+0.009}	56 ^{+0.083} _{+0.053}	36±0.195	
MSB 455645			45±0.195	
MSB 455656			56±0.230	
MSB 456040			40±0.195	
MSB 456045	45 ^{+0.034} _{+0.009}	60 ^{+0.083} _{+0.053}	45±0.195	
MSB 456050			50±0.195	
MSB 456060	45 ^{+0.034} _{+0.009}	60 ^{+0.083} _{+0.053}	60±0.230	
MSB 485550	48 ^{+0.034} _{+0.009}	55 ^{+0.083} _{+0.053}	50±0.195	
MSB 485850	48 ^{+0.034} _{+0.009}	58 ^{+0.083} _{+0.053}	50±0.195	
MSB 505632			32±0.195	
MSB 505640			40±0.195	
MSB 505650	50 ^{+0.034} _{+0.009}	56 ^{+0.083} _{+0.053}	50±0.195	
MSB 505663			63±0.230	
MSB 506030			30±0.165	
MSB 506032			32±0.195	
MSB 506035			35±0.195	
MSB 506040			40±0.195	
MSB 506045			45±0.195	
MSB 506050	50 ^{+0.034} _{+0.009}	60 ^{+0.083} _{+0.053}	50±0.195	
MSB 506060			60±0.230	
MSB 506063			63±0.230	
MSB 506070			70±0.230	
MSB 506075			75±0.230	
MSB 556340			40±0.195	
MSB 556355	55 ^{+0.040} _{+0.010}	63 ^{+0.083} _{+0.053}	55±0.230	
MSB 556540	55 ^{+0.040} _{+0.010}	65 ^{+0.083} _{+0.053}	40±0.195	

PART NUMBER	ID	OD	LENGTH	CHAMFER
MSB 556555	55 ^{+0.040} / _{+0.010}	65 ^{+0.083} / _{+0.053}	55±0.230	0.7
MSB 556570			70±0.230	
MSB 606850	60 ^{+0.040} / _{+0.010}	68 ^{+0.089} / _{+0.059}	50±0.195	
MSB 606860			60±0.230	
MSB 607050	60 ^{+0.040} / _{+0.010}	70 ^{+0.089} / _{+0.059}	50±0.195	0.8
MSB 607060			60±0.230	
MSB 607090			90±0.270	
MSB 6070120			120±0.270	
MSB 607250	60 ^{+0.040} / _{+0.010}	72 ^{+0.089} / _{+0.059}	50±0.195	
MSB 607260			60±0.230	
MSB 607270			70±0.230	
MSB 608090	60 ^{+0.040} / _{+0.010}	80 ^{+0.089} / _{+0.059}	90±0.270	
MSB 6080120			120±0.270	
MSB 637040	63 ^{+0.040} / _{+0.010}	70 ^{+0.089} / _{+0.059}	40±0.195	
MSB 637050			50±0.195	
MSB 708090	70 ^{+0.040} / _{+0.010}	80 ^{+0.089} / _{+0.059}	90±0.270	
MSB 7080120			120±0.270	
MSB 8010080	80 ^{+0.040} / _{+0.010}	100 ^{+0.106} / _{+0.071}	80±0.230	
MSB 80100120			120±0.270	
MSB 10012080	100 ^{+0.047} / _{+0.012}	120 ^{+0.114} / _{+0.079}	80±0.230	
MSB 100120120			120±0.270	
MSB 110125120			110 ^{+0.054} / _{+0.014}	
MSB 125150120	125 ^{+0.054} / _{+0.014}	150 ^{+0.140} / _{+0.100}	120±0.270	

MSB SINTERED FLANG BUSHING



ORDERING EXAMPLE: MSB1 F020503

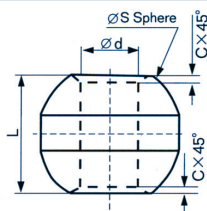
PART NUMBER	ID	OD	FLANGE OD	FLANGE THICKNESS	LENGHT	R	CHAMFER
MSB-F020503	2 ^{+0.012} / _{+0.002}	5 ^{+0.031} / _{+0.019}	8 ± 0.110	1.5±0.070	3+0.070		
MSB-F030604					4±0.090		
MSB-F030605					5+0.090		
MSB-F030606	3 ^{+0.012} / _{+0.002}	6 ^{+0.031} / _{+0.019}			6±0.090		
MSB-F030610					10±0.110		
MSB-F040803					3±0.070		
MSB-F040804					4±0.090		
MSB-F040805					5±0.090		
MSB-F040806	4 ^{+0.016} / _{+0.004}	8 ^{+0.038} / _{+0.023}	12±0.135	2±0.070	6±0.090		
MSB-F040808					8±0.110		
MSB-F040810					10±0.110		
MSB-F040812					12±0.135	0.3	
MSB-F050904					4±0.090		
MSB-F050905	5 ^{+0.016} / _{+0.004}	9 ^{+0.038} / _{+0.023}	13±0.135	2±0.070	5±0.090		0.3
MSB-F050908					8±0.110		
MSB-F061004					4±0.090		
MSB-F061005					5±0.090		
MSB-F061006					6±0.090		
MSB-F061010	6 ^{+0.016} / _{+0.004}	10 ^{+0.038} / _{+0.023}	14±0.135	2±0.070	10±0.110		
MSB-F061012					12±0.135		
MSB-F061015					15±0.135		
MSB-F061016					16±0.135		
MSB-F071105					5±0.090		
MSB-F071108	7 ^{+0.020} / _{+0.005}	11 ^{+0.046} / _{+0.028}	15±0.135	2±0.070	8±0.110		
MSB-F071110					10±0.110		
MSB-F081206					6±0.090		
MSB-F081208					8±0.110		
MSB-F081210					10±0.110		
MSB-F081212	8 ^{+0.020} / _{+0.005}	12 ^{+0.046} / _{+0.028}	16±0.135	2±0.070	12±0.135		
MSB-F081215					15±0.135	0.6	
MSB-F081216					16±0.135		
MSB-F081220					20±0.165		
MSB-F091406					6±0.090		
MSB-F091410	9 ^{+0.020} / _{+0.005}	14 ^{+0.046} / _{+0.028}	19±0.165	2.5±0.070	10±0.110		
MSB-F091414					14±0.135		
MSB-F101310	10 ^{+0.020} / _{+0.005}	13 ^{+0.046} / _{+0.028}	17±0.135	2.5±0.070	10±0.110		0.4

PART NUMBER	ID	OD	FLANGE OD	FLANGE THICKNESS	LENGHT	R	CHAMFER
MSB-F101316	10 ^{+0.020} / _{+0.005}	13 ^{+0.046} / _{+0.028}	17±0.135	2.5±0.070	16±0.135		
MSB-F101320					20±0.165		
MSB-F101410					10±0.110		
MSB-F101415	10 ^{+0.020} / _{+0.005}	14 ^{+0.046} / _{+0.028}	18±0.135	2±0.070	15±0.135		
MSB-F101420					20±0.165		
MSB-F101508					8±0.110		
MSB-F101510	10 ^{+0.020} / _{+0.005}	15 ^{+0.046} / _{+0.028}	21±0.165	3±0.070	10±0.110		
MSB-F101515					15±0.135		
MSB-F101516					16±0.135		
MSB-F101520					20±0.165		
MSB-F101608					8±0.110		
MSB-F101610	10 ^{+0.020} / _{+0.005}	16 ^{+0.046} / _{+0.028}	22±0.165	3±0.070	10±0.110		
MSB-F101616					16±0.135		
MSB-F121512					12±0.135		
MSB-F121516					12±0.135		
MSB-F121516	12 ^{+0.024} / _{+0.006}	15 ^{+0.046} / _{+0.028}	21±0.165	3±0.070	16±0.135		
MSB-F121520					20±0.165		
MSB-F121620	12 ^{+0.024} / _{+0.006}	16 ^{+0.046} / _{+0.028}	18±0.135	2±0.070	20±0.165		
MSB-F121712					12±0.135		
MSB-F121716					16±0.135		
MSB-F121720	12 ^{+0.024} / _{+0.006}	17 ^{+0.046} / _{+0.028}	23±0.165	3±0.070	20±0.165		
MSB-F121725					25±0.165		
MSB-F121808					8±0.110		
MSB-F121812	12 ^{+0.024} / _{+0.006}	18 ^{+0.046} / _{+0.028}	24±0.165	3±0.070	12±0.135		
MSB-F121820					20±0.165		
MSB-F141814					14±0.135		
MSB-F141818	14 ^{+0.024} / _{+0.006}	18 ^{+0.046} / _{+0.028}	22±0.165	2±0.070	18±0.135		
MSB-F141822					22±0.165		
MSB-F142010					10±0.110		
MSB-F142014	14 ^{+0.024} / _{+0.006}	20 ^{+0.056} / _{+0.028}	26±0.165	3±0.070	14±0.135		
MSB-F142015					15±0.135		
MSB-F142018					18±0.135		
MSB-F142020					20±0.165		
MSB-F142022					22±0.165		
MSB-F142028	28±0.165						
MSB-F151916	15 ^{+0.024} / _{+0.006}	19 ^{+0.056} / _{+0.035}	25±0.165	3±0.070	16±0.135	0.6	0.4
MSB-F151920					20±0.165		
MSB-F151925					25±0.165		
MSB-F152015	15 ^{+0.024} / _{+0.006}	20 ^{+0.056} / _{+0.035}	25±0.165	3±0.070	15±0.135		
MSB-F152020					20±0.165		
MSB-F152025					25±0.165		
MSB-F152030					30±0.165		
MSB-F152110					10±0.110		
MSB-F152115					15±0.135		
MSB-F152116	15 ^{+0.024} / _{+0.006}	21 ^{+0.056} / _{+0.035}	27±0.165	3±0.070	16±0.135		
MSB-F152120					20±0.165		
MSB-F152125					25±0.165		
MSB-F152132					32±0.195		
MSB-F162016					16±0.135		
MSB-F162020	16 ^{+0.024} / _{+0.006}	20 ^{+0.056} / _{+0.035}	27±0.165	3±0.070	20±0.165		
MSB-F162025					25±0.165		
MSB-F162212					12±0.135		
MSB-F162215	16 ^{+0.024} / _{+0.006}	22 ^{+0.056} / _{+0.035}	28±0.165	3±0.070	15±0.135		
MSB-F162216					16±0.135		
MSB-F162220					20±0.165		

PART NUMBER	ID	OD	FLANGE OD	FLANGE THICKNESS	LENGHT	R	CHAMFER
MSB-F162225					25±0.165		
MSB-F162230	16 ^{+0.024} _{+0.006}	22 ^{+0.056} _{+0.035}	28 ± 0.165	3 ± 0.070	30±0.165		
MSB-F162232					32±0.195		
MSB-F182218					18±0.135		
MSB-F182222	18 ^{+0.024} _{+0.006}	22 ^{+0.056} _{+0.035}	26 ± 0.165	2 ± 0.070	22±0.165		
MSB-F182228					28±0.165		
MSB-F182412					12±0.135		
MSB-F182418					18±0.135		
MSB-F182422	18 ^{+0.024} _{+0.006}	24 ^{+0.056} _{+0.035}	30 ± 0.165	3 ± 0.070	22±0.165		
MSB-F182428					28±0.165		
MSB-F182430					30±0.165		
MSB-F182520					20±0.165		
MSB-F182525					25±0.165		0.4
MSB-F182530	18 ^{+0.024} _{+0.006}	25 ^{+0.056} _{+0.035}	32 ± 0.195	4 ± 0.090	30±0.165		
MSB-F182535					35±0.195		
MSB-F202416					16±0.135		
MSB-F202420	20 ^{+0.028} _{+0.007}	24 ^{+0.056} _{+0.035}	30 ± 0.165	3 ± 0.070	20±0.165		
MSB-F202425					25±0.165		
MSB-F202615					15±0.135		
MSB-F202616					16±0.135		
MSB-F202620					20±0.165		
MSB-F202625	20 ^{+0.028} _{+0.007}	26 ^{+0.056} _{+0.035}	32±0.195	3±0.070	25±0.165		
MSB-F202630					30±0.165		
MSB-F202632					32±0.195		
MSB-F202820					20±0.165		
MSB-F202825					25±0.165		
MSB-F202830	20 ^{+0.028} _{+0.007}	28 ^{+0.056} _{+0.035}	35 ± 0.195	4 ± 0.090	30±0.165		
MSB-F202835					35±0.195	0.6	
MSB-F222718					18±0.135		
MSB-F222722	22 ^{+0.028} _{+0.007}	27 ^{+0.056} _{+0.035}	32 ± 0.195	25 ± 0.070	22±0.165		
MSB-F222728					28±0.165		
MSB-F222815					15±0.135		
MSB-F222820					20±0.165		
MSB-F222825	22 ^{+0.028} _{+0.007}	28 ^{+0.056} _{+0.035}	34±0.195	3 ± 0.070	25±0.165		
MSB-F222830					30±0.165		
MSB-F222918					18±0.135		
MSB-F222922	22 ^{+0.028} _{+0.007}	29 ^{+0.056} _{+0.035}	36 ± 0.195	3.5 ± 0.090	22±0.165		
MSB-F222928					28±0.165		
MSB-F222936					36±0.195		
MSB-F253020					20±0.165		
MSB-F253025	25 ^{+0.028} _{+0.007}	30 ^{+0.056} _{+0.035}	39 ± 0.195	3.5 ± 0.090	25±0.195		
MSB-F253032					32±0.195		
MSB-F253220					20±0.165		
MSB-F253225	25 ^{+0.028} _{+0.007}	32 ^{+0.068} _{+0.043}	39 ± 0.195	3.5 ± 0.090	25±0.165		
MSB-F253230					30±0.165		
MSB-F253232					32±0.195		
MSB-F283322					22±0.165		
MSB-F283328	28 ^{+0.028} _{+0.007}	33 ^{+0.068} _{+0.043}	38 ± 0.195	2.5 ± 0.070	28±0.165	0.6	
MSB-F282236					36±0.195		
MSB-F283620					20±0.165		
MSB-F283622					22±0.165		
MSB-F283625	28 ^{+0.028} _{+0.007}	36 ^{+0.068} _{+0.043}	44 ± 0.195	4 ± 0.070	25±0.165		
MSB-F283628					28±0.165		
MSB-F283630					30±0.165		

PART NUMBER	ID	OD	FLANGE OD	FLANGE THICKNESS	LENGHT	R	CHAMFER
MSB-F283635					35±0.195		
MSB-F283636	28 ^{+0.028} _{+0.007}	36 ^{+0.068} _{+0.043}	44±0.195	4±0.090	36±0.195		
MSB-F283640					40±0.195		
MSB-F303820					20±0.165		
MSB-F303825	30 ^{+0.028} _{+0.007}	38 ^{+0.068} _{+0.043}	46±0.195	4±0.090	25±0.165	0.6	
MSB-F303830					30±0.165		
MSB-F304025					25±0.165		
MSB-F304030	30 ^{+0.028} _{+0.007}	40 ^{+0.068} _{+0.043}	48±0.195	4±0.090	30±0.165		
MSB-F304035					35±0.195		
MSB-F304040					40±0.195		0.6
MSB-F323820					20±0.165		
MSB-F323825	32 ^{+0.034} _{+0.009}	38 ^{+0.068} _{+0.043}	46±0.195	4±0.090	25±0.165		
MSB-F323832					32±0.195		
MSB-F324020					20±0.165		
MSB-F324025					25±0.165		
MSB-F324028					28±0.165		
MSB-F324030	32 ^{+0.034} _{+0.009}	40 ^{+0.068} _{+0.043}	48±0.195	4±0.090	30±0.165		
MSB-F324032					32±0.195		
MSB-F324035					35±0.195		
MSB-F324036					36±0.165		
MSB-F324040					40±0.195		
MSB-F354525					25±0.165		
MSB-F354530	35 ^{+0.034} _{+0.009}	45 ^{+0.068} _{+0.043}	55±0.230	5±0.090	30±0.165		
MSB-F354535					35±0.195		
MSB-F354540					40±0.195		
MSB-F364522	36 ^{+0.034} _{+0.009}	45 ^{+0.068} _{+0.043}	48±0.195	4.5±0.09	22±0.165		
MSB-F384825	38 ^{+0.034} _{+0.009}	48 ^{+0.068} _{+0.043}	58±0.230	5±0.090	25±0.165		
MSB-F384835					35±0.195		
MSB-F404625					25±0.165		
MSB-F404632	40 ^{+0.034} _{+0.009}	46 ^{+0.068} _{+0.043}	56±0.230	5±0.090	32±0.195		
MSB-F404640					40±0.195		
MSB-F405025					25±0.165		
MSB-F405030					30±0.165	0.8	0.7
MSB-F405032	40 ^{+0.034} _{+0.009}	50 ^{+0.068} _{+0.043}	60±0.230	5±0.090	32±0.195		
MSB-F405035					35±0.195		
MSB-F405040					40±0.195		
MSB-F405050					50±0.195		
MSB-F425230					30±0.165		
MSB-F425240	42 ^{+0.034} _{+0.009}	52 ^{+0.083} _{+0.053}	62±0.230	5+0.090	40±0.195		
MSB-F425250					50±0.195		
MSB-F455128					28±0.165		
MSB-F455136	45 ^{+0.034} _{+0.009}	51 ^{+0.083} _{+0.053}	57±0.230	3±0.070	36±0.195		
MSB-F455145					45±0.195		
MSB-F455535					35±0.195		
MSB-F455545	45 ^{+0.034} _{+0.009}	55 ^{+0.083} _{+0.053}	65±0.230	5±0.090	45±0.195		
MSB-F455555					55±0.230		
MSB-F455628					28±0.165		
MSB-F455636	45 ^{+0.034} _{+0.009}	56 ^{+0.083} _{+0.053}	67±0.230	5.5±0.09	36±0.195		
MSB-F455645					45±0.195		
MSB-F505632					32±0.195		
MSB-F505640	50 ^{+0.034} _{+0.009}	56 ^{+0.083} _{+0.053}	62±0.230	3±0.070	40±0.195		
MSB-F505650					50±0.195		
MSB-F506032					32±0.195		
MSB-F506040	50 ^{+0.034} _{+0.009}	60 ^{+0.083} _{+0.057}	70±0.230	5±0.090	40±0.195		
MSB-F506050					50±0.195		
MSB-F607050	60 ^{+0.040} _{+0.010}	70 ^{+0.089} _{+0.059}	80±0.230	5±0.090	50±0.195		
MSB-F607060					60±0.230		0.8

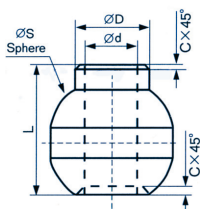
MSB SPHERICAL BUSHING



ORDERING EXAMPLE MSB1 B 0408

PART NUMBER	ID	SPHERE	LENGHT	CHAMFER
MSB-B 0408	4 ^{+0.012} ₀	10±0.05	8±0.15	0.3
MSB-B 0509	5 ^{+0.012} ₀	12±0.05	9±0.15	0.5
MSB-B 0611	6 ^{+0.012} ₀	14±0.05	11 ±0.15	0.5
MSB-B 0712	7 ^{+0.012} ₀	16±0.05	12±0.15	0.5
MSB-B 0813	8 ^{+0.012} ₀	18±0.05	13±0.15	0.5
MSB-B 0914.5	9 ^{+0.012} ₀	20±0.05	14.5±0.15	0.5
MSB-B 1016	10 ^{+0.012} ₀	22±0.05	16±0.15	0.5
MSB-B 1216	12 ^{+0.012} ₀	23±0.05	16±0.15	0.5

MSB SPHERICAL BUSHING WITH RING



ORDERING EXAMPLE: MSB1 BC 0410

PART NUMBER	ID	OD	SPHERE	LENGHT	CHAMFER
MSB-BC 0410	4 ^{+0.012} ₀	6±0.05	10±0.05	10±0.15	0.3
MSB-BC 0511	5 ^{+0.012} ₀	8±0.05	12±0.05	11 ±0.15	0.5
MSB-BC 0613	6 ^{+0.012} ₀	9±0.05	14±0.05	13±0.15	0.5
MSB-BC 0714	7 ^{+0.012} ₀	10.5±0.05	16±0.05	14±0.15	0.5
MSB-BC 0816	8 ^{+0.012} ₀	12.5±0.05	18±0.05	16±0.15	0.5
MSB-BC 0917	9 ^{+0.012} ₀	14±0.05	20±0.05	17±0.15	0.5
MSB-BC 1018	10 ^{+0.012} ₀	15±0.05	22±0.05	18±0.15	0.5
MSB-BC 1218	12 ^{+0.012} ₀	17.5±0.05	23±0.05	18±0.15	0.5



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