

oilite[®]



SINTERED BEARINGS

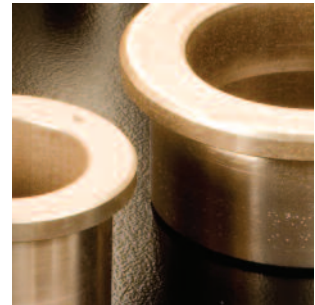


See also: **BOWMAN** Bearings and Components Catalogue

Tel +44 (0)1235 462500 • Fax +44 (0)1235 462519
E-mail oilite@bowman.co.uk

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Introduction

We pride ourselves in giving excellent service which includes:

- **Full design aid service**
- **Competitive pricing and payment terms**
- **Large stocks**
- **Overnight delivery**
- **Just-in-time/kan ban scheduling**
- **Full technical and design service**
- **Machining facility for special sizes of bearings and carbon products**

Bowman was founded in 1972 and in 1984 the manufacture of certain products commenced. As well as its own manufacture, the company holds exclusive agencies of other manufacturer's products, which complement Bowman's range.

Bowman International Limited was first approved for ISO 9001: 1994 in 1999 and in 2010 was approved to the later approval BS EN ISO 9001: 2008 (Certificate No. 960929).

Bowman is recognised as a leading supplier to original equipment manufacturers, stockists and distributors across a wide range of industries and is one of the leading companies in Europe specialising in the design, supply and manufacture of plain bearings, sintered components and brushes for electric motors.

In 2003 ball and needle bearings were introduced to our range. Bowman is now expanding into exporting throughout the world.

In 2009, the assets of Oilite Bearings Ltd and MPC Ltd (formerly known as Eagersinter) were acquired, which

greatly expanded our ranges of sintered bearings and our sintered component capabilities.

A new automated warehouse was opened in 2008 which stores more than £2,000,000 of stock.

Bowman's product range covers:-

- **Oilite® "Oilube®" bronze and iron sintered bearings**
- **Sintered components**
- **Wrapped bearings**
- **White metal bearings**
- **Solid bronze bearings**
- **Plastic bearings**
- **Composite bearings**
- **Carbon bearings**
- **Special designed bearings**
- **Brushes for electric motors & slip rings**
- **Carbon seals & products**
- **Flexible shaft couplings**
- **Ball bearings**
- **Needle bearings**

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- **Competitive pricing and payment terms**
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- **Full technical and design service**
- **Machining facility for special sizes of bearings and carbon products**

Other products are being added to our range as the market dictates.

Company objectives

To continue to offer our customers the highest standard of service in our Industry. It is our intention to remain at the forefront of bearing supply and design and to continue our development into new bearing materials and lubricants.

We will also continue to tailor our range of products and services in line with our customers' changing aspirations and requirements.



Bowman International Limited reserve the right to change specifications without prior notice E & OE



LRQ 0960929

The industry standard

Oilite® has been acknowledged as the undisputed market leader in self-lubricating bearings for more than 80 years, and today sets the standard for other products with its quality and reliability.

The extensive technical knowledge and manufacturing resources behind Oilite® have resulted in a vast array of sophisticated, high quality components that are supplied to a wide range of industries, throughout the world.

Widest range in Europe

As well as being the UK's number one choice, Oilite® bearings are also produced for other EU markets and offer the widest choice of self-lubricating bearings anywhere in Europe. Standard stock ranges are available in metric and inch. To ensure that customers have the benefit of fast delivery, a large range of European sizes are always stocked.

- 1000 European standard sizes
- Stock holding for fast delivery

There are now five standard stock ranges, ISO Metric, Inch, DIN 1850, French Metric and Scandinavian Metric.

Bespoke products

Where customer requirements are not met by stock items, our bespoke service enables us to produce both bronze and iron bearings and customer specified structural parts that are specifically designed to meet individual requirements.

Manufacturing quality and efficiency

Our manufacturing facilities are highly automated for maximum efficiency and competitiveness. Rigorous quality control procedures are adopted at all stages of manufacture.

Custom Machining

Bowman also specialise in machining Oilite® self-lubricating bearings and plates to meet individual specifications and tolerances. This service provides, for example, one-off requirements in machine maintenance or limited production runs in the OEM design field or for prototype testing before committing to tooling. Specialist tools and machining techniques are employed. This maintains the performance characteristics and physical properties which are the prerequisite of these components.

Certification

The company is certified to the Quality Management Systems requirement of ISO 9001:2008 by LRQA Certificate No. LRQ0960929 and is approved for use by:

- Augusta Westland
- Messier Dowty
- Hawker Beechcraft Corporation

Certificates of conformity & Certificates of material analysis are supplied by request.

Special Lubricants & Additives

The standard stock range of Oilite® bearings is impregnated with a mineral oil SAE 30 viscosity; all machined Oilite® bearings and plates are supplied fully impregnated after machining. A wide range of lubricants with varying temperature ranges are available to meet specific requirements. Lubricant additives are also available to impart anti-wear properties in marginal lubrication conditions such as stainless steel shaft applications.

Technical Advice

Extensive technical resources are available to resolve bearing problems. Engineers are always available to discuss projects in detail, without obligation.

Oilite® conforms to DIN 1850/ISO 2795

Oilite® metric bearings are manufactured to the tolerances set out in ISO 2795 - Plain Bearings from Sintered Material. The German stock range of bearings conform to DIN 1850.

Material Choice

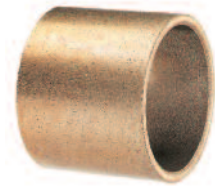
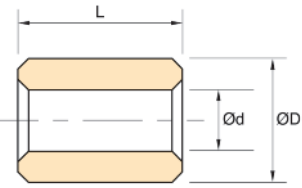
Standard Oilite® - oil retaining tin bronze is the generally specified material. It gives a good balance between strength, wear resistance, conformability and durability in operation. Ideal in a wide variety of applications where "self lubricating" properties are required over a long period of time.

Super Oilite® - an iron copper material suited to high static loads and slow oscillatory motion.

Iron Oilite® - 100% iron oil-retaining bearings provide an ideal solution in high stress low revolution applications.

Metric plain bearings to ISO 2795

Part Code	Inner Diameter			Outer Diameter			Basic L (js13)	Tolerances	
	Basic	Min.	Max.	Basic	Min.	Max.		ID	OD
AS 0204*	2	2.014	2.024	4	4.015	4.027	4	E7	r7
AM 0205	2	2.002	2.012	5	5.019	5.031	2 4 3	G7	s7
AM 0305	3	3.002	3.012	5	5.019	5.031	3 4 6	G7	s7
AM 0306	3	3.002	3.012	6	6.019	6.031	3 4 6	G7	s7
AS 0308*	3	3.014	3.024	8	8.019	8.034	4	E7	r7
AM 0407	4	4.004	4.016	7	7.023	7.038	3 4 6	G7	s7
AM 0408	4	4.004	4.016	8	8.023	8.038	4 6 8 12	G7	s7
AS 0410*	4	4.020	4.032	10	10.019	10.034	8	E7	r7
AM 0508	5	5.004	5.016	8	8.023	8.038	4 5 8 10 12 16	G7	s7
AM 0509	5	5.004	5.016	9	9.023	9.038	4 5 8	G7	s7
AS 0510*	5	5.020	5.032	10	10.019	10.034	6 8 10	E7	r7
AS 0512*	5	5.020	5.032	12	12.023	12.041	10	E7	r7
AM 0609	6	6.004	6.016	9	9.023	9.038	4 6 10 12 16	G7	s7
AM 0610	6	6.004	6.016	10	10.023	10.038	4 6 10 12 16	G7	s7
AS 0612*	6	6.020	6.032	12	12.023	12.041	6 8 12	E7	r7
AS 0614*	6	6.020	6.032	14	14.023	14.041	12	E7	r7
AM 0710	7	7.005	7.020	10	10.023	10.038	5 8 10	G7	s7
AM 0711	7	7.005	7.020	11	11.028	11.046	8 10	G7	s7
AM 0811	8	8.005	8.020	11	11.028	11.046	6 8 12	G7	s7
AM 0812	8	8.005	8.020	12	12.028	12.046	6 8 12 16 20	G7	s7
AM 0814	8	8.005	8.020	14	14.028	14.046	8 12 16 20	G7	s7
AS 0818*	8	8.025	8.040	18	18.023	18.041	16	E7	r7
AM 0912	9	9.005	9.020	12	12.028	12.046	6 10 14	G7	s7
AM 0914	9	9.005	9.020	14	14.028	14.046	6 10 14	G7	s7
AM 1013	10	10.005	10.020	13	13.028	13.046	10 16	G7	s7
AM 1014	10	10.005	10.020	14	14.028	14.046	8 10 16 20 25	G7	s7
AM 1015	10	10.005	10.020	15	15.028	15.046	10 16 20 25	G7	s7
AM 1016	10	10.005	10.020	16	16.028	16.046	8 10 16 20 25	G7	s7
AS 1022*	10	10.025	10.040	22	22.028	22.046	20	E7	r7
AM 1215	12	12.006	12.024	15	15.028	15.046	12 16 20 25	G7	s7
AM 1216	12	12.006	12.024	16	16.028	16.046	8 12 16 20 25	G7	s7
AM 1218	12	12.006	12.024	18	18.028	18.046	8 12 16 20 25	G7	s7
AS 1225*	12	12.032	12.050	25	25.028	25.049	25	E7	r7
AM 1418	14	14.006	14.024	18	18.028	18.046	10 14 20	G7	s7
AM 1420	14	14.006	14.024	20	20.035	20.056	10 14 20 30	G7	s7
AS 1428*	14	14.032	14.050	28	28.028	28.049	30	E7	r7
AM 1519	15	15.006	15.024	19	19.035	19.056	10 15 20 25 30	G7	s7
AS 1520*	15	15.032	15.050	20	20.028	20.049	10 15 20 25 30	E7	r7
AM 1521	15	15.006	15.024	21	21.035	21.056	10 15 20 25	G7	s7
AM 1522	15	15.006	15.024	22	22.035	22.056	16 20 30	G7	s7
AS 1530*	15	15.032	15.050	30	30.028	30.049	30	E7	r7
AM 1620	16	16.006	16.024	20	20.035	20.056	10 12 16 20 25 30	G7	s7
AM 1622	16	16.006	16.024	22	22.035	22.056	12 16 20 25 30	G7	s7
AS 1632*	16	16.032	16.050	32	32.034	32.059	30	E7	r7
AM 1822	18	18.006	18.024	22	22.035	22.056	12 18 20 30	G7	s7
AM 1824	18	18.006	18.024	24	24.035	24.056	12 18 30	G7	s7
AM 1825	18	18.006	18.024	25	25.035	25.056	12 16 20 22 30	G7	s7
AS 1835*	18	18.032	18.050	35	35.034	35.059	30	E7	r7
AM 2024	20	20.007	20.028	24	24.035	24.056	16 20 25 32	G7	s7
AM 2025	20	20.007	20.028	25	25.035	25.056	15 20 25 30	G7	s7
AM 2026	20	20.007	20.028	26	26.035	26.056	15 20 25 30	G7	s7
AM 2028	20	20.007	20.028	28	28.035	28.056	20 25 30 40 50	G7	s7
AS 2040*	20	20.040	20.061	40	40.034	40.059	40	E7	r7
AM 2227	22	22.007	22.028	27	27.035	27.056	15 20 25 35	G7	s7
AM 2228	22	22.007	22.028	28	28.035	28.056	15 20 25 28 30	G7	s7
AM 2232	22	22.007	22.028	32	32.043	32.068	20 30 50	G7	s7
AM 2530	25	25.007	25.028	30	30.035	30.056	20 25 30 50	G7	s7



Concentricity
≤ 50 = IT9
> 50 = IT10

Bearings marked * are not included in ISO 2795.

For ordering see following part code examples.
 4 ID x 7 OD x 4 long = AM040704 or 12 ID x 15 OD x 25 long = AM121525.

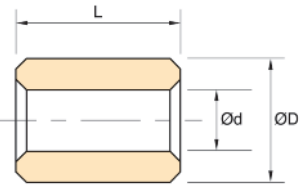
Non-standard lengths can be supplied. If the size you require is not listed please contact our sales dept. We also offer a specialised machining service for low volume non-standard sizes and tolerances.

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Metric plain bearings to ISO 2795 – continued

Part Code	Inner Diameter			Outer Diameter			Basic L (js13)					Tolerances				
	Basic	Min.	Max.	Basic	Min.	Max.						ID	OD			
AM 2532	25	25.007	25.028	32	32.043	32.068	20	25	30	35	40	G7	s7			
AM 2535	25	25.007	25.028	35	35.043	35.068	25	35	50			G7	s7			
AM 2545*	25	25.040	25.061	45	45.034	45.059	35					E7	r7			
AM 2833	28	28.007	28.028	33	33.043	33.068	20	30				G7	s7			
AM 2836	28	28.007	28.028	36	36.043	36.068	20	25	30	40		G7	s7			
AM 3035	30	30.007	30.028	35	35.043	35.068	20	25	30			G7	s7			
AM 3038	30	30.007	30.028	38	38.043	38.068	20	25	30	40		G7	s7			
AM 3040	30	30.007	30.028	40	40.043	40.068	25	35	40	45	50	60	G7	s7		
AM 3050*	30	30.05	30.075	50	50.034	50.059	60					E7	r7			
AM 3238	32	32.009	32.034	38	38.043	38.068	20	25	30	40		G7	s7			
AM 3240	32	32.009	32.034	40	40.043	40.068	20	25	30	40	50	G7	s7			
AM 3541	35	35.009	35.034	41	41.043	41.068	25	35	40			G7	s7			
AM 3544	35	35.009	35.034	44	44.043	44.068	22	28	35			G7	s7			
AM 3545	35	35.009	35.034	45	45.043	45.068	25	35	40	50	70	G7	s7			
AM 3642	36	36.009	36.034	42	42.043	42.068	22	28	36	45		G7	s7			
AM 3645	36	36.009	36.034	45	45.043	45.068	22	28	36	45		G7	s7			
AM 3844	38	38.009	38.034	44	44.043	44.068	25	35	45			G7	s7			
AM 3848	38	38.009	38.034	48	48.043	48.068	35	45	55			G7	s7			
AM 4046	40	40.009	40.034	46	46.043	46.068	30	40	50			G7	s7			
AM 4050	40	40.009	40.034	50	50.043	50.068	25	30	32	35	40	50	60	80	G7	s7
AM 4248	42	42.009	42.034	48	48.043	48.068	40	50				G7	s7			
AM 4252	42	42.009	42.048	52	52.053	52.099	40	50	60			G8	s8			
AM 4551	45	45.009	45.048	51	51.053	51.099	35	45	55			G8	s8			
AM 4555	45	45.009	45.048	55	55.053	55.099	35	45	55	65	75	80	G8	s8		
AM 4556	45	45.009	45.048	56	56.053	56.099	28	36	45	56		G8	s8			
AM 4565*	45	45.050	45.075	65	65.041	65.071	80					E7	r7			
AM 4855	48	48.009	48.048	55	55.053	55.099	50					G8	s8			
AM 4858	48	48.009	48.048	58	58.053	58.099	50					G8	s8			
AM 5058	50	50.009	50.048	58	58.053	58.099	35	50				G8	s8			
AM 5060	50	50.009	50.048	60	60.053	60.099	30	35	40	50	63	70	75	100	G8	s8
AM 5070*	50	50.050	50.089	70	70.043	70.089	70					E8	r8			
AM 5563	55	55.010	55.056	63	63.053	63.099	40	55				G8	s8			
AM 5570*	55	55.060	55.106	70	70.043	70.089	70					E8	r8			
AM 5565	55	55.060	55.106	65	65.041	65.087	40	55	70			E8	r8			
AM 6068	60	60.010	60.056	68	68.059	68.105	50	60	70			G8	s8			
AM 6070	60	60.010	60.056	70	70.059	70.105	50	60	120			G8	s8			
AM 6072	60	60.010	60.056	72	72.059	72.105	50	60	70			G8	s8			
AM 6075*	60	60.060	60.106	75	75.043	75.089	60	90				E8	r8			
AM 6080*	60	60.060	60.106	80	80.043	80.089	120					E8	r8			
AM 6085*	60	60.060	60.106	85	85.051	85.105	90					E8	r8			
AM 6370	63	63.010	63.056	70	70.059	70.105	40	50				G8	s8			
AM 6575*	65	65.060	65.106	75	75.043	75.089	60	90				E8	r8			
AM 6580*	65	65.060	65.106	80	75.043	75.089	60	90				E8	r8			
AM 7080*	70	70.060	70.106	80	75.043	75.089	60	90	120			E8	r8			
AM 7085*	70	70.060	70.106	85	85.051	85.105	60	90				E8	r8			
AM 7585*	75	75.060	75.106	85	85.051	85.105	70	100				E8	r8			
AM 7590*	75	75.060	75.106	90	90.051	90.105	70	100				E8	r8			
AM 75100*	75	75.060	75.106	100	100.051	100.105	100					E8	r8			
AM 8090*	80	80.060	80.106	90	90.051	90.105	70	100				E8	r8			
AM 8095*	80	80.060	80.106	95	95.051	95.105	70	100				E8	r8			
AM 80100*	80	80.060	80.106	100	100.051	100.105	120					E8	r8			
AM 80105*	80	80.060	80.106	105	105.054	105.108	100					E8	r8			
AM 8595*	85	85.072	85.125	95	95.051	95.105	100					E8	r8			
AM 85100*	85	85.072	85.125	100	100.051	100.105	100					E8	r8			
AM 90105*	90	90.072	90.125	105	105.054	105.089	80					E8	r8			
AM 90110*	90	90.072	90.125	110	110.054	110.108	80					E8	r8			
AM 100120*	100	100.072	100.125	120	120.054	120.108	80	100	120			E8	r8			

Note
ISO Metric Bearing Standard is G7 s7



Concentricity
≤ 50 = IT9
> 50 = IT10

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Non-standard lengths can be supplied. If the size you require is not listed please contact our sales dept. We also offer a specialised machining service for low volume non-standard sizes and tolerances.

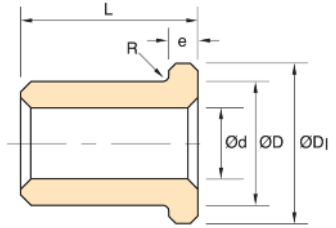
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BOWMAN INTERNATIONAL LIMITED

10 Isis Court, Wyndyke Furlong, Abingdon Business Park, Abingdon, Oxfordshire, OX14 1DZ England
Tel +44 (0)1235 462500 Fax +44 (0)1235 462519 E-mail oilite@bowman.co.uk Website www.bowman.co.uk

Metric flanged bearings to ISO 2795

Part Code	Inner Diameter			Outer Diameter			ØD1	e	Basic L	Tolerances	
	Basic	Min.	Max.	Basic	Min.	Max.				ID	OD
AL 0205	2	2.002	2.012	5	5.019	5.031	8	1.5	3	G7	s7
AT 0305*	3	3.020	3.032	5	5.015	5.027	8	1.5	4	E7	r7
AL 0306	3	3.004	3.016	6	6.019	6.031	9	1.5	3 4	G7	s7
AL 0408	4	4.004	4.016	8	8.023	8.038	12	2	4 6 8 12	G7	s7
AT 0408	4	4.020	4.032	8	8.019	8.034	10	1.5	6	E7	r7
AL 0509	5	5.004	5.016	9	9.023	9.038	13	2	4 5 8	G7	s7
AT 0510*	5	5.020	5.032	10	10.019	10.034	12	2	6	E7	r7
AL 0610	6	6.004	6.016	10	10.023	10.038	14	2	4 6 8 10 16	G7	s7
AT 0612*	6	6.020	6.032	12	12.023	12.041	14	2	6	E7	r7
AL 0711	7	7.005	7.020	11	11.028	11.046	15	2	5 8	G7	s7
AL 0812	8	8.005	8.020	12	12.028	12.046	16	2	6 8 12 16	G7	s7
AT 0814*	8	8.025	8.040	14	14.023	14.041	18	3	8	E7	r7
AT 0914*	9	9.025	9.040	14	14.023	14.041	19	2.5	6 10 14	E7	r7
AL 1013	10	10.005	10.020	13	13.028	13.046	17	2.5	8 10 16 20	G7	s7
AT 1014*	10	10.025	10.040	14	14.023	14.041	18	2	12	E7	r7
AL 1015	10	10.005	10.020	15	15.028	15.046	21	3	8 10 16 20	G7	s7
AL 1016	10	10.005	10.020	16	16.028	16.046	22	3	8 10 12 16	G7	s7
AT 1016*	10	10.025	10.040	16	16.023	16.041	20	3	8 10	E7	r7
AL 1215	12	12.006	12.024	15	15.028	15.046	21	3	12 16 20	G7	s7
AL 1217	12	12.006	12.024	17	17.028	17.046	23	3	12 16 20 25	G7	s7
AL 1218	12	12.006	12.024	18	18.023	18.041	24	3	8 12 20	G7	s7
AT 1218*	12	12.032	12.050	18	18.023	18.041	22	3	10 12	E7	r7
AL 1420	14	14.006	14.024	20	20.035	20.056	26	3	10 14 20	G7	s7
AL 1519	15	15.006	15.024	19	19.035	19.056	25	3	16 20 25	G7	s7
AL 1521	15	15.006	15.024	21	21.035	21.056	27	3	10 15 20 25	G7	s7
AT 1522*	15	15.032	15.050	22	22.028	22.049	28	3	12 16	E7	r7
AL 1620	16	16.006	16.024	20	20.035	20.056	27	3	16 20 25	G7	s7
AT 1620*	16	16.032	16.050	20	20.028	20.049	24	2	12	E7	r7
AL 1622	16	16.006	16.024	22	22.035	22.056	28	3	12 16 20 25	G7	s7
AT 1622*	16	16.032	16.050	22	22.028	22.049	28	4	12 16	E7	r7
AL 1824	18	18.006	18.024	24	24.035	24.056	30	3	12 18 22 30	G7	s7
AT 1825*	18	18.032	18.050	25	25.028	25.049	32	4	12 16	E7	r7
AL 2024	20	20.007	20.028	24	24.035	24.056	30	3	16 20 25	G7	s7
AL 2026	20	20.007	20.028	26	26.035	26.056	32	3	15 20 25 30	G7	s7
AT 2028*	20	20.040	20.061	28	28.028	28.049	35	4	16 20	E7	r7
AL 2228	22	22.007	22.028	28	28.035	28.056	34	3	15 20 25 30	G7	s7
AL 2530	25	25.007	25.028	30	30.035	30.056	39	3.5	20 25 32	G7	s7
AL 2532	25	25.007	25.028	32	32.043	32.068	39	3.5	20 25 30	G7	s7
AT 2535*	25	25.040	25.061	35	35.034	35.059	45	5	16 25	E7	r7
AL 2836	28	28.007	28.028	36	36.043	36.068	44	4	20 25 30	G7	s7
AL 3038	30	30.007	30.028	38	38.043	38.068	46	4	20 25 30	G7	s7
AT 3040*	30	30.040	30.061	40	40.034	40.059	50	5	20 30	E7	r7
AL 3238	32	32.009	32.034	38	38.043	38.068	46	4	20 25 32	G7	s7
AL 3240	32	32.009	32.034	40	40.043	40.068	48	4	20 25 30	G7	s7
AL 3545	35	35.009	35.034	45	45.043	45.068	55	5	20 25 35 40	G7	s7
AL 3848	38	38.009	38.034	48	48.043	48.068	58	5	25 35	G7	s7
AL 4046	40	40.009	40.034	46	46.043	46.068	56	5	25 32 40	G7	s7
AL 4050	40	40.009	40.034	50	50.043	50.068	60	5	25 30 40 50	G7	s7
AT 4050*	40	40.050	40.075	50	50.034	50.059	60	6	25 40	E7	r7
AL 4252	42	42.009	42.048	52	52.053	52.099	62	5	40 50	G8	s8
AL 4555	45	45.009	45.048	55	55.053	55.099	65	5	35 45 55	G8	s8
AT 4555*	45	45.050	45.075	55	55.041	55.071	65	6	30 45	E7	r7
AL 5060	50	50.009	50.048	60	60.053	60.099	70	5	32 35 40 50	G8	s8
AT 5060*	50	50.050	50.075	60	60.041	60.071	70	6	30 50	E7	r7
AT 6072	60	60.060	60.106	72	72.043	72.089	84	6	50 60	E8	r8
AT 6075	60	60.060	60.106	75	75.043	75.089	85	8	60	E8	r8
AT 7085	70	70.060	70.106	85	85.051	85.105	95	8	60	E8	r8
AT 8095	80	80.060	80.106	95	95.051	95.105	105	8	70	E8	r8
AT 90110	90	90.072	90.125	110	110.054	110.108	120	8	50	E8	r8
AT 100120	100	100.072	100.125	120	120.054	120.108	130	8	80	E8	r8



Bearings marked * are not included in ISO 2795.

For ordering see following part code examples. 4 ID x 8 OD x 6 long = AL040806 or 12 ID x 15 OD x 20 long = AL121520.

Non-standard lengths can be supplied. If the size you require is not listed please contact our sales dept. We also offer a specialised machining service for low volume non-standard sizes and tolerances.

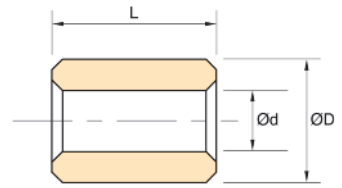
Bowman International Limited reserve the right to change specifications without prior notice E & OE

German metric plain bearings to DIN 1850 (G7/r6 tolerances)

Part Code	Inner Diameter $\varnothing d$ (G7)			Outer Diameter (r6)			Basic L (js 13)			f max	Concentricity D to d
	Basic	Min	Max	Basic	Min	Max					
AD0306	3	3.002	3.012	6	6.015	6.023	7			0.3	0.018
AD0408	4	4.004	4.016	8	8.019	8.028	10			0.3	0.022
AD0509	5	5.004	5.016	9	9.019	9.028	10			0.3	0.022
AD0610	6	6.004	6.016	10	10.019	10.028	10			0.3	0.022
AD0612	6	6.004	6.016	12	12.023	12.034	12			0.3	0.027
AD0812	8	8.005	8.020	12	12.023	12.034	8	12	15	0.3	0.027
AD1016	10	10.005	10.020	16	16.023	16.034	10	15	20	0.3	0.027
AD1218	12	12.006	12.024	18	18.023	17.046	10	15	20	0.5	0.027
AD1420	14	14.006	14.024	20	20.028	20.041	20			0.5	0.033
AD1520	15	15.006	15.024	20	20.028	20.041	15			0.5	0.033
AD1520	16	15.006	15.024	20	20.028	20.041	25			0.5	0.033
AD1622	16	16.006	16.024	22	22.028	20.041	15	25		0.5	0.033
AD1825	18	18.007	18.024	25	25.028	25.041	25			0.5	0.033
AD2026	20	20.007	20.028	26	27.028	26.041	20	30		0.5	0.033
AD2030	20	20.007	20.028	30	30.028	30.041	20	30		0.5	0.033
AD2228	22	22.007	22.028	28	28.028	28.041	20	30		0.5	0.033
AD2532	25	25.007	25.028	32	32.034	32.050	25	35		0.5	0.039
AD2836	28	28.007	28.028	36	36.034	36.050	25	35		0.5	0.039
AD3038	30	30.007	30.028	38	38.034	38.050	30	40		0.5	0.039
AD3040	30	30.007	30.028	40	40.034	40.050	30	40		0.5	0.039
AD3240	32	32.009	32.034	40	40.034	40.050	40			0.8	0.039
AD3545	35	35.009	35.034	45	45.034	45.050	35	45		0.8	0.039
AD4050	40	40.009	40.034	50	50.034	50.050	50			0.8	0.039
AD4556	45	45.009	45.034	50	56.041	56.060	35			0.8	0.046
AD5060	50	50.009	50.034	60	60.041	60.060	50			0.8	0.046

For ordering see following part code examples.

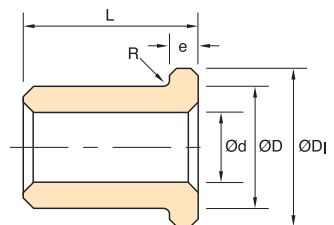
8 ID x 12 OD x 8 long = AD081208 or 14 ID x 20 OD x 20 long = AD142020.



German metric flanged bearings to DIN 1850 (G7/r6 tolerances)

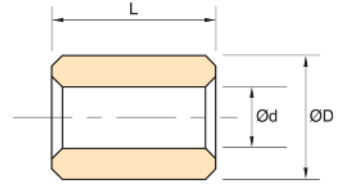
Part Code	Inner Diameter $\varnothing d$ (G7)			Outer Diameter (r6)			Basic L (js 13)	$\varnothing D$ TOL	Concentricity D to d	e	f max	r max
	Basic	Min	Max	Basic	Min	Max						
AE040806	4	4.004	4.016	8	8.019	8.028	6	10	0.022	2	0.3	0.3
AE061010	6	6.004	6.016	10	10.019	10.028	10	12	0.022	2	0.3	0.3
AE081215	8	8.005	8.020	12	12.013	12.034	15	14	0.027	2	0.3	0.3
AE101620	10	10.005	10.020	16	16.023	16.034	20	20	0.027	2	0.3	0.6
AE121620	12	12.006	12.024	16	16.023	16.034	20	18	0.027	2	0.5	0.6
AE142025	14	14.006	14.024	20	20.028	20.041	25	23	0.033	3	0.5	0.6
AE162220	16	16.008	16.024	22	22.028	22.041	20	28	0.033	3	0.5	0.6
AE182430	18	18.006	18.024	24	24.028	24.041	30	32	0.033	3	0.5	0.6
AE202630	20	20.007	20.028	26	26.028	26.041	30	32	0.033	3	0.5	0.6

Non-standard lengths can be supplied. If the size you require is not listed please contact our sales dept. We also offer a specialised machining service for low volume non-standard sizes and tolerances.



French metric plain bearings (F7 / s7 – F8/s8 tolerances)

Part Code	Inner Diameter Ød (F7/F8)			Outer Diameter ØD (s7/s8)			Basic L (js13)			F max	Concentricity D to d
	Basic	Min	Max	Basic	Min	Max					
AF0205	2	2.007	2.016	5	5.019	5.031	2	3		0.3	0.050
AF0306	3	3.007	3.016	6	6.019	6.031	4	6	10	0.3	0.050
AF0407	4	4.010	4.022	7	7.023	7.038	4	8	12	0.3	0.050
AF0408	4	4.010	4.022	8	8.023	8.038	4	8	12	0.3	0.050
AF0508	5	5.010	5.022	8	8.023	8.038	5	8	10 12 16	0.3	0.050
AF0509	5	5.010	5.022	9	9.023	9.038	4	5	8	0.3	0.050
AF0609	6	6.010	6.022	9	9.023	10.038	6	10	12 16	0.3	0.050
AF0610	6	6.010	6.022	10	10.023	10.038	6	10	12 16	0.3	0.050
AF0612	6	6.010	6.022	12	12.038	12.046	6	10	12 16	0.3	0.050
AF0710	7	7.013	7.028	10	10.023	10.038	5	8	10	0.3	0.050
AF0811	8	8.013	8.028	11	11.028	11.046	8	12	16 20	0.3	0.050
AF0812	8	8.013	8.028	12	12.038	12.046	8	12	16 20	0.3	0.050
AF0814	8	8.013	8.028	14	14.028	14.046	8	12	16 20	0.3	0.050
AF0912	9	9.013	9.028	12	12.028	12.046	6	10	14	0.3	0.050
AF1013	10	10.013	10.028	13	13.028	13.046	10	16	20 25	0.3	0.050
AF1014	10	10.013	10.028	14	14.028	14.046	10	16	20 25	0.3	0.050
AF1015	10	10.013	10.028	15	15.028	15.046	10	16	20 25	0.3	0.050
AF1016	10	10.013	10.028	16	16.028	16.046	10	16	20 25	0.4	0.050
AF1215	12	12.016	12.034	15	15.028	15.046	12	16	20 25	0.4	0.050
AF1216	12	12.016	12.034	16	16.028	16.046	12	16	20 25	0.4	0.050
AF1217	12	12.016	12.034	17	17.028	17.046	12	16	20 25	0.4	0.050
AF1218	12	12.016	12.034	18	18.028	18.046	12	16	20 25	0.4	0.050
AF1418	14	14.016	14.034	18	18.028	18.046	14	18	22 28	0.4	0.050
AF1420	14	14.016	14.034	20	20.035	20.056	14	18	22 28	0.4	0.050
AF1519	15	15.016	15.034	19	19.035	19.056	16	20	25 32	0.4	0.050
AF1521	15	15.016	15.034	21	21.035	21.056	16	20	25 32	0.4	0.050
AF1620	16	16.016	16.034	20	20.035	20.056	16	20	25 32	0.4	0.050
AF1622	16	16.016	16.034	22	22.035	22.056	16	20	25 32	0.4	0.050
AF1822	18	18.016	18.034	22	22.035	22.056	18	22	28 36	0.4	0.050
AF1824	18	18.016	18.034	24	24.035	24.056	18	22	28 36	0.4	0.050
AF1825	18	18.016	18.034	25	25.035	25.056	18	22	28 36	0.4	0.050
AF2024	20	20.020	20.041	24	24.035	24.056	16	20	25 30 32	0.4	0.050
AF2025	20	20.020	20.041	25	25.035	25.056	16	20	25 32	0.4	0.050
AF2026	20	20.020	20.041	26	26.035	26.056	16	20	25 32	0.4	0.050
AF2027	20	20.020	20.041	27	27.035	27.056	16	20	25 32	0.4	0.050
AF2028	20	20.020	20.041	28	28.035	28.056	16	20	25 32	0.4	0.050
AF2227	22	22.020	22.041	27	27.035	27.056	18	22	28 36	0.4	0.050
AF2228	22	22.020	22.041	28	28.035	28.056	18	22	28 36	0.4	0.050
AF2229	22	22.020	22.041	29	29.043	29.068	18	22	28 36	0.4	0.050
AF2530	25	25.020	25.041	30	30.035	30.056	20	25	32 40	0.4	0.050
AF2532	25	25.020	25.041	32	32.043	32.068	20	25	32 40	0.4	0.050
AF2832	28	28.020	28.041	32	32.043	32.068	22	28	36 45	0.4	0.070
AF2833	28	28.020	28.041	33	33.043	33.068	22	28	36 45	0.4	0.070
AF2836	28	28.020	28.041	36	36.043	36.060	22	28	36 45	0.4	0.070
AF3038	30	30.020	30.041	38	38.043	38.068	24	30	38	0.4	0.070
AF3238	32	32.025	32.050	38	38.043	38.068	20	25	32 40 50	0.4	0.070
AF3240	32	32.025	32.050	40	40.043	40.068	20	25	32 40 50	0.4	0.070
AF3544	35	35.025	35.050	44	44.043	44.068	22	28	35	0.4	0.070
AF3545	35	35.025	35.050	45	45.043	45.068	25	35	40 50	0.4	0.070
AF3642	36	36.025	36.050	42	42.043	42.068	22	28	36 45	0.4	0.070
AF3645	36	35.025	36.050	45	45.043	45.068	22	28	36 45	0.4	0.070
AF3844	38	38.025	38.050	44	44.043	44.068	25	35	45	0.4	0.070
AF4046	40	40.025	40.050	46	46.043	46.068	25	32	40 50	0.4	0.070
AF4050	40	40.025	40.050	50	50.043	50.068	25	32	40 50	0.4	0.070
AF4551	45	45.025	45.050	51	51.053	51.083	28	36	45 56	0.4	0.070
AF4555	45	45.025	45.050	55	55.053	55.083	35	45	55 65	0.4	0.070
AF4556	45	45.025	45.050	56	56.053	56.083	28	36	45 56	0.4	0.070
AF5056	50	50.025	50.050	56	56.053	56.083	32	40	50 63	0.4	0.070
AF5060	50	50.025	50.050	60	56.053	56.083	32	40	50 63	0.4	0.070
AF5565	55	55.030	55.076	65	65.053	65.083	40	55	70	0.7	0.070
AF6070	60	60.030	60.076	70	70.059	70.105	50	60		0.7	0.070
AF6072	60	60.030	60.076	72	72.059	72.105	50	60	70	0.7	0.070
AF6080	60	60.030	60.076	80	80.059	80.105	90			0.7	0.070
AF6370	63	63.030	63.076	70	70.059	70.105	40	50		0.7	0.070



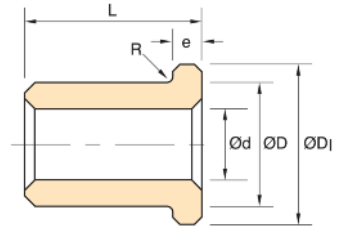
Non-standard lengths can be supplied. If the size you require is not listed please contact our sales dept. We also offer a specialised machining service for low volume non-standard sizes and tolerances.

For ordering see following part code examples.
4 ID x 7 OD x 4 long = AF040704 or
12 ID x 15 OD x 25 long = AF121525.

Tolerances	
Ø Interior ≤ 50mm	tolerance -F7
> 50mm	tolerance -F8
Ø Exterior ≤ 50mm	tolerance -s7
> 50mm	tolerance -s8

French metric flanged bearings (F8 / s8 tolerances)

Part Code	Inner Diameter Ød (F8)			Outer Diameter ØD (s8)			Basic L (js13)			øDi	e	f max	r max	Concentricity D to d	
	Basic	Min	Max	Basic	Min	Max									
AG0306	3	3.006	3.020	6	6.019	6.037	4	6	10	9	1.5	0.3	0.3	0.060	
AG0408	4	4.010	4.028	8	8.023	8.045	4	6	12	8	12	2	0.3	0.3	0.060
AG0610	6	6.010	6.028	10	10.023	10.045	6	10	16		14	2	0.4	0.3	0.060
AG0812	8	8.013	8.035	12	12.038	12.055	8	12	16		16	2	0.4	0.3	0.060
AG0914	9	9.013	9.035	14	14.028	14.055	6	10	14		19	2.5	0.4	0.3	0.060
AG1013	10	10.013	10.035	13	13.028	13.055	10	16	20		16	1.5	0.4	0.3	0.060
AG1015	10	10.013	10.035	15	15.028	15.055	10	16	20		20	2.5	0.4	0.6	0.060
AG1016	10	10.013	10.035	16	16.028	16.055	8	10	16		22	3	0.4	0.6	0.060
AG1215	12	12.016	12.043	15	15.028	15.055	12	16	20		18	1.5	0.4	0.6	0.060
AG1217	12	12.016	12.043	17	17.028	17.055	12	16	20	25	22	2.5	0.4	0.6	0.060
AG1218	12	12.016	12.043	18	18.028	18.055	8	12	20		24	3	0.4	0.6	0.060
AG1418	14	14.016	14.043	18	18.028	18.055	14	18	22		22	2	0.4	0.6	0.060
AG1420	14	14.016	14.043	20	20.035	20.068	14	18	22	28	26	3	0.4	0.6	0.060
AG1519	15	15.016	15.043	19	19.035	19.068	16	20	25		23	2	0.4	0.6	0.060
AG1521	15	15.016	15.043	21	21.035	21.068	16	20	25	32	27	3	0.4	0.6	0.060
AG1620	16	16.016	16.043	20	20.035	20.068	16	20	25		24	2	0.4	0.6	0.060
AG1622	16	16.016	16.043	22	22.035	22.068	16	20	25	32	28	3	0.4	0.6	0.060
AG1822	18	18.016	18.043	22	22.035	22.068	18	22	28		26	2	0.4	0.6	0.060
AG1824	18	18.016	18.043	24	24.035	24.068	18	22	28		30	3	0.4	0.6	0.060
AG2024	20	20.020	20.053	24	24.035	24.068	16	20	25		28	2	0.4	0.6	0.060
AG2026	20	20.020	20.053	26	26.035	26.068	16	20	25	32	32	3	0.4	0.6	0.060
AG2227	22	22.020	22.053	27	27.035	27.068	18	22	28		32	2.5	0.4	0.6	0.060
AG2228	22	22.020	22.053	28	28.035	28.068	15	20	25	30	34	3	0.4	0.6	0.060
AG2229	22	22.020	22.053	29	29.035	29.068	18	22	28	36	36	3.5	0.4	0.6	0.060
AG2530	25	25.020	25.053	30	30.035	30.068	20	25	32		35	2.5	0.4	0.6	0.060
AG2532	25	25.020	25.053	32	30.043	32.082	20	25	32		39	3.5	0.4	0.6	0.060
AG2833	28	28.020	28.053	33	33.043	33.082	22	28	36		38	2.5	0.4	0.6	0.080
AG2836	28	28.020	28.053	36	36.043	36.082	22	28	36		44	4	0.4	0.6	0.080
AG3038	30	30.020	30.053	38	38.043	38.082	20	25	30		46	4	0.6	0.8	0.080
AG3238	32	32.025	32.064	38	38.043	38.082	20	25	32		44	3	0.6	0.8	0.080
AG3240	32	32.025	32.064	40	40.043	40.082	20	25	30	32	48	4	0.6	0.8	0.080
AG3642	36	36.025	36.064	42	42.043	42.082	22	28	36		48	3	0.6	0.8	0.080
AG3645	36	36.025	36.064	45	45.043	45.082	22	28	36		54	4.5	0.6	0.8	0.080
AG4046	40	40.025	40.064	46	46.043	46.082	25	32	40		52	3	0.6	0.8	0.080
AG4050	40	40.025	40.084	50	50.043	50.082	25	32	40		60	5	0.7	0.8	0.080
AG4551	45	45.025	45.064	51	51.023	51.099	28	36	45		57	3	0.7	0.8	0.080
AG4556	45	45.025	45.064	56	56.053	56.099	28	36	45		67	5.5	0.7	0.8	0.080
AG5056	50	50.025	50.064	56	56.053	56.099	32	40	50		62	3	0.7	0.8	0.080
AG5060	50	50.025	50.064	60	60.053	60.099	32	40	50		70	5	0.7	0.8	0.080



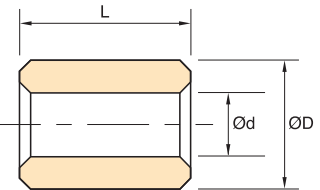
For ordering see following part code examples.

4 ID x 8 OD x 6 long = AG040806 or 12 ID x 15 OD x 20 long = AG121520.

Non-standard lengths can be supplied. If the size you require is not listed please contact our sales dept. We also offer a specialised machining service for low volume non-standard sizes and tolerances.

Inch plain bearings

Table with columns: Part Code, Inner Diameter Ød (Basic, Min., Max.), Outer Diameter ØD (Basic, Min., Max.), and Basic L. Contains multiple rows of technical specifications for various bearing sizes.



WHEN CHECKING YOUR ORDER ACKNOWLEDGEMENT

Please use the following table for conversion from the fraction (length) to the two digit suffix of the part code. Example: AI030504 (1/4 length)

Conversion table mapping fractions (03 to 48) to their corresponding decimal values (1/16 to 3).

Some of the imperial sizes listed above can be supplied with different tolerance ranges. Before finalising designs or when ordering imperial bearings for repairs, please check with our sales department, the tolerance bands available, either from stock or for special orders.

* Non standard chamfer (details on request).

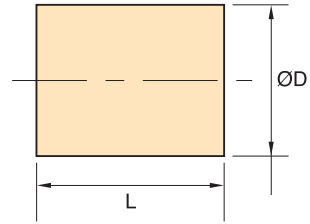
Non-standard lengths can be supplied. If the size you require is not listed please contact our sales dept. We also offer a specialised machining service for low volume non-standard sizes and tolerances.

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Solid bars

Part Code	Diameter O D/mm	Diameter O D/inch	Length L/mm	Length L/inch	Part Code	Diameter O D/mm	Diameter O D/inch	Length L/mm	Length L/inch
AB 004020	6.35	1/4"	31.75	1 1/4"	AB 000026104	41.27	1 5/8"	165	6 1/2"
AB 000004032	6.35	1/4"	50.8	2"	AB 002844	44.45	1 3/4"	69.85	2 3/4"
AB 000006048	9.52	3/8"	76.2	3"	AB 000028104	44.45	1 3/4"	165	6 1/2"
AB 000624	9.52	3/8"	381	1 1/2"	AB 003868	47.63	1 7/8"	108	4 1/4"
AB 000824	12.7	1/2"	38.1	1 1/2"	AB 003244	50.8	2"	69.85	2 3/4"
AB 000008104	12.7	1/2"	165	6 1/2"	AB 000032104	50.8	2"	165	6 1/2"
AB 000010104	15.88	5/8"	165	6 1/2"	AB 003468	53.98	2 1/8"	108	4 1/4"
AB 001032	15.88	5/8"	50.8	2"	AB 000036104	57.15	2 1/4"	165	6 1/2"
AB 001232	19.05	3/4"	50.8	2"	AB 000038104	60.32	2 3/8"	165	6 1/2"
AB 000012104	19.05	3/4"	165	6 1/2"	AB 000040104	63.5	2 1/2"	165	6 1/2"
AB 000014104	22.22	7/8"	165	6 1/2"	AB 004268	66.68	2 5/8"	108	4 1/4"
AB 001432	22.22	7/8"	50.8	2"	AB 000048104	76.2	3"	165	6 1/2"
AB 001640	25.4	1"	63.5	2 1/2"	AB 005068	79.38	3 1/8"	108	4 1/4"
AB 000016104	25.4	1"	165	6 1/2"	AB 000052104	82.55	3 1/4"	165	6 1/2"
AB 001868	28.57	1 1/8"	108	4 1/4"	AB 000056104	88.9	3 1/2"	165	6 1/2"
AB 000018104	28.57	1 1/8"	165	6 1/2"	AB 005868	92.08	3 5/8"	108	4 1/4"
AB 002040	31.75	1 1/4"	63.5	2 1/2"	AB 000064104	101.6	4"	165	6 1/2"
AB 000020104	31.75	1 1/4"	165	6 1/2"	AB 006668	104.78	4 1/8"	108	4 1/4"
AB 002244	34.92	1 3/8"	69.85	2 3/4"	AB 000072104	114.3	4 1/2"	165	6 1/2"
AB 002268	34.92	1 3/8"	108	4 1/4"	AB 000080104	127	5"	165	6 1/2"
AB 000022104	34.92	1 3/8"	165	6 1/2"	AB 000088104	139.7	5 1/2"	165	6 1/2"
AB 000024104	38.1	1 1/2"	165	6 1/2"	AB 000096104	152.4	6"	165	6 1/2"
AB 002644	41.27	1 5/8"	69.85	2 3/4"	AB 000112104	177.8	7"	165	6 1/2"
AB 002668	41.27	1 5/8"	108	4 1/4"	AB 000128104	203.2	8"	165	6 1/2"

We also offer specialised machining service for special sizes of bearings according to customers specific requirements.



Plates

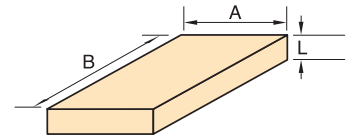
Part Code	A (Width)		B (Length)		L (Thickness)	
	mm	inch	mm	inch	mm	inch
AP 010413	25.4	1"	108	4 1/4"	3.2	1/8"
AP 010475	25.4	1"	108	4 1/4"	19.05	3/4"
AP 050863	127	5"	203	8"	15.9	5/8"
AP 061238	152	6"	305	12"	9.5	3/8"
AP 101038	254	10"	254	10"	9.5	3/8"

The 5 listed plates above are to be discontinued and will only be available while stocks last.

Part Code	A (Width)		B (Length)		L (Thickness)		Part Code	A (Width)		B (Length)		L (Thickness)	
	mm	inch	mm	inch	mm	inch		mm	inch	mm	inch	mm	inch
AP 0804004	12.7	1/2"	63	2 1/2"	6.35	1/4"	AP 8009616	127.0	5"	152	6"	25.40	1"
AP 1805003	28.5	1 1/8"	79	3 1/8"	4.75	3/16"	AP 8012802	127.0	5"	203	8"	3.17	1/8"
AP 3213004	50.8	2"	206	8 1/8"	6.35	1/4"	AP 8012803	127.0	5"	203	8"	4.75	3/16"
AP 3213008	50.8	2"	206	8 1/8"	12.70	1/2"	AP 8012804	127.0	5"	203	8"	6.35	1/4"
AP 4819204	76.2	3"	304	12"	6.35	1/4"	AP 8012808	127.0	5"	203	8"	12.70	1/2"
AP 4819208	76.2	3"	304	12"	12.70	1/2"	AP 8012812	127.0	5"	203	8"	19.05	3/4"
AP 4819212	76.2	3"	304	12"	19.05	3/4"	AP 8012816	127.0	5"	203	8"	25.40	1"
AP 4819216	76.2	3"	304	12"	25.40	1"	AP 9619202	152.0	6"	304	12"	3.17	1/8"
AP 8009602	127.0	5"	152	6"	3.17	1/8"	AP 9619203	152.0	6"	304	12"	4.75	3/16"
AP 8009603	127.0	5"	152	6"	4.75	3/16"	AP 9619204	152.0	6"	304	12"	6.35	1/4"
AP 8009604	127.0	5"	152	6"	6.35	1/4"	AP 9619206	152.0	6"	304	12"	9.52	3/8"
AP 8009606	127.0	5"	152	6"	9.52	3/8"	AP 9619208	152.0	6"	304	12"	12.70	1/2"
AP 8009608	127.0	5"	152	6"	12.70	1/2"	AP 9619210	152.0	6"	304	12"	15.87	5/8"
AP 8009610	127.0	5"	152	6"	15.87	5/8"	AP 9619212	152.0	6"	304	12"	19.05	3/4"
AP 8009612	127.0	5"	152	6"	19.05	3/4"	AP 9619216	152.0	6"	304	12"	25.40	1"

Thickness +0.250 -0.127 mm +0.010 -0.005 inch

Width and length will finish to the dimensions shown.



Circular Bearing Plates

Part Code	Inside Dia.		Outside Dia.		Thickness	
	mm	inch	mm	inch	mm	inch
CD 3001	25.4	1"	76.2	3"	6.35	1/4"
CD 4001	25.4	1"	101.6	4"	6.35	1/4"
CD 4002	50.8	2"	101.6	4"	6.35	1/4"
CD 5500	50.8	2"	139.7	5 1/2"	6.35	1/4"
CD 4502	57.1	2 1/4"	114.3	4 1/2"	6.35	1/4"
CD6003	101.6	4"	152.4	6"	6.35	1/4"

Circular Bearing Discs

Part Code	Outside Dia.		Thickness	
	mm	inch	mm	inch
DD 3000	76.2	3"	6.35	1/4"
DD 3000-1	76.2	3"	6.35	1/4"
DD 4000	101.6	4"	6.35	1/4"
DD5602-1	142.8	5 5/8"	6.35	1/4"



Circular rings and discs are only manufactured to order. Thickness to. +/- 0.09mm +/- 0.0035inch. Outside and inside diameters will finish to dimensions shown.

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BOWMAN INTERNATIONAL LIMITED

10 Isis Court, Wyndyke Furlong, Abingdon Business Park, Abingdon, Oxfordshire, OX14 1DZ England

Tel +44 (0)1235 462500 Fax +44 (0)1235 462519 E-mail oilite@bowman.co.uk Website www.bowman.co.uk

Metric Spherical Bearings

Reference

Bore	Spherical Diameter	Length
3.18	8	6
3.5	8	6
4	8	6
4	9	5
4	10	7
4	12	8
4.5	9	5
4.5	12	8
5	10	7
5	12	8
5	12	9
5	13	8
5	13	9
6	10	4
6	12	8
6	12	9
6	13	8
6	13	9
7	13	8
7	14	10
7	16	11
8	13.5	9
8	14	10
8	16	11
9	16	12

Metric Spherical Bearings with Collars

Reference

Bore	Spherical Dia	Collar Dia	Collar Length
4	9	6	2
5	12	9	3
6	12	9	2

All spherical bearings can be supplied in various grades of sintered bronze and iron, with lubricants to suit different applications. Spherical bearings can be supplied with one or two collars. Various bore tolerances and non-standard lengths can be supplied. Imperial sizes also available.



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oilite[®]

BEARINGS



Technical Data



BOWMAN INTERNATIONAL LIMITED

10 Isis Court, Wyndyke Furlong, Abingdon Business Park, Abingdon, Oxfordshire, OX14 1DZ England

Tel +44 (0)1235 462500 Fax +44 (0)1235 462519

E-mail oilite@bowman.co.uk Websites www.bowman.co.uk

www.oilitebearings.com (European Customers) www.oilite.com (USA and Canadian Customers)

Technical information

Lubrication

Standard OILITE[®] bearings are impregnated with a highly refined mineral oil to ISO VG (SAE 30) having a high viscosity index and containing anti-oxidant, anti-rust and defoamant additives.

To prevent possible seizures with stainless steel, hard-chromium and nickel plated shafts, an addition of molybdenum disulphide to the impregnation oil must be specified.

Any particular application thought to be outside standard conditions should be referred to our Technical Department.

However, here are some basic rules:

1. Low viscosity oil for low temperatures, high speeds or light loads
2. High viscosity oil for high temperatures, low speeds or heavy loads
3. High viscosity index oil for wide variations in operating temperatures
4. Oxidation stable oils for long-period usage
5. Oil with 'oiliness' additives for boundary conditions
6. Oil of lesser 'oiliness' for full film (hydrodynamic) conditions
7. Oil with Extreme Pressure (E.P.) additives for very heavy or shock loads

Fitting

Before fitting make sure that all sharp edges are removed from the housing and mating shaft. The bearing must be free from grit and dust.

Always use a fitting pin (see sketch below) and steady pressure to insert the bearing. Never use hammer blows. Shafts should ideally be hardened to approximately HRC 60 and ground to a surface roughness of $Ra = 0.25 \mu m$. (Refer to fitting data page).

Note: In extreme circumstances a combination of tolerances can make insertion of the fitting pin difficult. For advice on the recommended course of action in such cases contact our Technical Department on the number below.

Storage

OILITE[®] bearings can be stored for considerable periods without deterioration or loss of oil if kept in a metal or other non-absorbent container, at room temperature. Proximity to heat could cause oil loss by sweating, in which case re-oiling is necessary before fitting. Wash in oil if storage conditions are in doubt.

Re-oiling

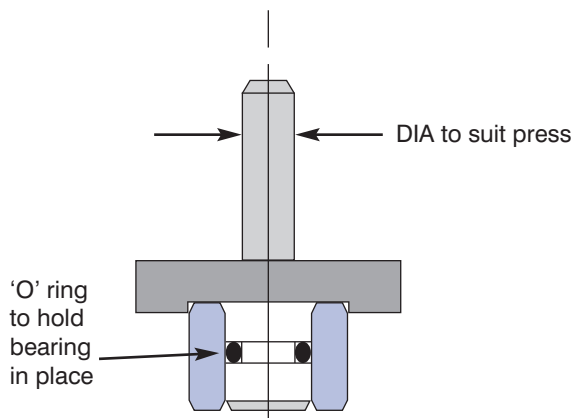
After machining of the bearing, or following oil loss during storage, immerse in high quality mineral oil to ISO VG 68 or ISO VG 150 (SAE 30 or SAE 40) at 60°C to 70°C for 10 to 15 minutes and then cool in cold oil.

Machining

A specialised Machine Shop is available and we would be pleased to quote for your specific requirements.

For customers who prefer to machine OILITE[®] materials themselves, please contact our technical department and request our machining recommendations brochure or download the document from www.oilitebearings.com.

Design suggestion for bearing fitting tool



Oilite® materials

Material		Copper (Cu) %	Iron (Fe) %	Carbon (C) %	Tin (Sn) %	Other Elements Max %	Open Porosity P Min %	Oil Content Min %	Radial Crushing Strength K Min N/mm ²	Density P Nominal g/cc	Static Load Max N/mm ²	PV Factor N/mm ² x m/s	Dynamic Load max N/mm ²	V max m/s
Oilite®	MB01-1	Balance	1.0 Max	<0.3	9.0 - 11.0	2.0	27	24	120	6.0	35	1.8	10	6.0
	MB01-2	Balance	1.0 Max	<0.3	9.0 - 11.0	2.0	22	20	160	6.6	50	1.8	14	5.0
	MB01-3	Balance	1.0 Max	<0.3	9.0 - 11.0	2.0	20	18	180	7.0	65	1.8	18	5.5
Iron Oilite®	MB02-3	Nil	Balance	<0.3	Nil	2.0	17	15	220	6.2	90	1.4	20	2.0
Super Oilite®		18.0 - 22.0	Balance	<0.3	Nil	2.0	21	19	275	6.0	120	1.3	28	1.0
Super Oilite® 16		18.0 - 22.0	Balance	0.6 - 1.0	Nil	2.0	17	15	410	6.2	300	2.6	55	0.2
Super Oilite® 900	MB04-1	24.0 - 26.0	Balance	Nil	Nil	2.0	22	20	275	6.0	120	1.4	28	1.0

- MB01-1 Non standard available on request.
- MB01-2 All products unless otherwise stated.
- MB01-3 Applicable to DIN standard.

Other bearing materials for special applications are also available

- NOTES:
1. Density, oil content and open porosity determined according to BS EN ISO 2738:2000
 2. Radial crushing strength, according to BS EN ISO 2739:2010
 3. PV factor = Pressure (N/mm²) x bearing surface velocity (m/s) where pressure = load (N) ÷ Projected area (d x L) and d = inside diameter (mm).
 4. Bars, Cored Bars and Plates may contain up to 1% C.

Nearest equivalent specifications

MATERIAL	MB Grade	ISO	UK	France	Germany	U.S.A.		
			BS5600 Part 5 Section 5.1 1988	NF ISO 5755/1 A 95-771-1	DIN 30 910 PART 3	M.P.I.F. STAND. 35	S.A.E.	A.S.T.M.
Oilite®	MB01-1	C-T10-K110	P4011Z	FU-E10-60		CT-1000-K19	840	B438 Grd 1 Type 1
Bronze	MB01-2	C-T10-K140	P4012Z	FU-E10-64	Sint A50	CT-1000-K26	841	B438 Grd 1 Type 2
	MB01-3	C-T10-K180	P4013Z	FU-E10-68	Sint B50	CT-1000-K37	842	B438 Grd 1 Type 3

Lubricants and additives

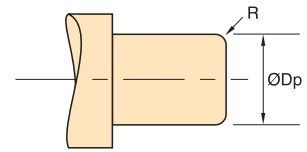
The standard stock range of Oilite® bearings is impregnated with a mineral oil SAE 30; all machined Oilite® bearings and plates are supplied fully impregnated after machining. A wide range of lubricants are available to meet specific requirements within a temperature range of -60°C to 200°C, lubricant additives are also available to impart anti-wear properties in marginal lubrication conditions. Special additives are also available for use with various shaft materials and finishes.

It is highly recommended that additives are employed when using stainless steel shafts. Please contact our technical department for advice on specific applications.

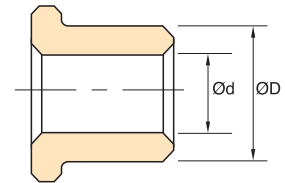
Metric flanged bearings to ISO 2795 – fitting data

Part Code	Basic Sizes		Ø dH (H7)		Ø Dp (m5)		Ø dF (H7)		Ø Ds (f7)	
	Ø d	Ø D	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
AL 0205	02	05	5.000	5.012	2.002	2.006	2.000	2.010	1.984	1.994
AL 0306	03	06	6.000	6.012	3.002	3.006	3.000	3.010	2.984	2.994
AL 0408	04	08	8.000	8.015	4.004	4.009	4.000	4.012	3.978	3.990
AL 0509	05	09	9.000	9.015	5.004	5.009	5.000	5.012	4.978	4.990
AL 0610	06	10	10.000	10.015	6.004	6.009	6.000	6.012	5.978	5.990
AL 0711	07	11	11.000	11.018	7.005	7.012	7.000	7.015	6.972	6.987
AL 0812	08	12	12.000	12.018	8.005	8.012	8.000	8.015	7.972	7.987
AL 1013	10	13	13.000	13.018	10.005	10.012	10.000	10.015	9.972	9.987
AL 1015	10	15	15.000	15.018	10.005	10.012	10.000	10.015	9.972	9.987
AL 1016	10	16	16.000	16.018	10.005	10.012	10.000	10.015	9.972	9.987
AL 1215	12	15	15.000	15.018	12.006	12.015	12.000	12.018	11.966	11.984
AL 1217	12	17	17.000	17.018	12.006	12.015	12.000	12.018	11.966	11.984
AL 1218	12	18	18.000	18.018	12.006	12.015	12.000	12.018	11.966	11.984
AL 1420	14	20	20.000	20.021	14.006	14.015	14.000	14.018	13.966	13.984
AL 1519	15	19	19.000	19.021	15.006	15.015	15.000	15.018	14.966	14.984
AL 1521	15	21	21.000	21.021	15.006	15.015	15.000	15.018	14.966	14.984
AL 1620	16	20	20.000	20.021	16.006	16.015	16.000	16.018	15.966	15.984
AL 1622	16	22	22.000	22.021	16.006	16.015	16.000	16.018	15.966	15.984
AL 1824	18	24	24.000	24.021	18.006	18.015	18.000	18.018	17.966	17.984
AL 2024	20	24	24.000	24.021	20.007	20.017	20.000	20.021	19.959	19.980
AL 2026	20	26	26.000	26.021	20.007	20.017	20.000	20.021	19.959	19.980
AL 2228	22	28	28.000	28.021	22.007	22.017	22.000	20.021	21.959	21.980
AL 2530	25	30	30.000	30.021	25.007	25.017	25.000	22.021	24.959	24.980
AL 2532	25	32	32.000	32.025	25.007	25.017	25.000	25.021	24.959	24.980
AL 2836	28	36	36.000	36.025	28.007	28.017	28.000	28.021	27.959	27.980
AL 3038	30	38	38.000	38.025	30.007	30.017	30.000	30.021	29.959	29.980
AL 3238	32	38	38.000	38.025	32.009	32.020	32.000	32.025	31.950	31.975
AL 3240	32	40	40.000	40.025	32.009	32.020	32.000	32.025	31.950	31.975
AL 3545	35	45	45.000	45.025	35.009	35.020	35.000	35.025	34.950	34.975
AL 3848	38	48	48.000	48.025	38.009	38.020	38.000	38.025	37.950	37.975
AL 4046	40	46	46.000	46.025	40.009	40.020	40.000	40.025	39.950	39.975
AL 4050	40	50	50.000	50.025	40.009	40.020	40.000	40.025	39.950	39.975

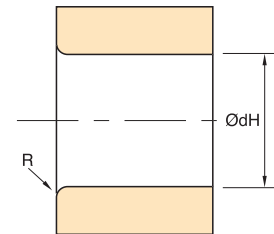
Part Code	Basic Sizes		Ø dH (H7)		Ø Dp (m5)		Ø dF (H7)		Ø Ds (f7)	
	Ø d	Ø D	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
AL 4252	42	52	52.000	52.030	42.009	42.020	42.000	42.039	41.950	41.975
AL 4555	45	55	55.000	55.030	45.009	45.020	45.000	45.039	44.950	44.975
AL 5060	50	60	60.000	60.030	50.009	50.020	50.000	50.039	49.950	49.975



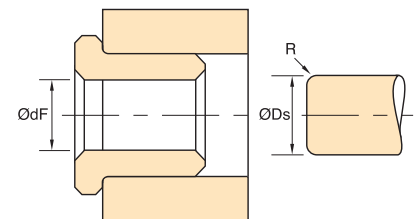
Fitting Pin



Free Bush



Housing



Fitted Bush

Shaft

Metric stock tolerances

Tolerances

Plain Bearings

Length:	L js 13
Concentricity:	Full indicated movement. D with respect to d: D < 50 mm IT9; D > 50 mm, IT10.

Flanged Bearings

Length:	L js 13
Flange thickness:	e js 13
Flange diameter:	D js 13

Chamfers: 45° chamfers are incorporated on inside and outside diameters at each end of the bush. Chamfer length varies with bush wall thickness and outside diameter.

Flanged Bearings

Radii (between outside diameter and flange face)

Outside Diameter	r max.
≤ 12	0.3
> 12 ≤ 30	0.6
> 30	0.8

Plain and Flanged Bearings

Tolerances

Nominal Sizes (mm)	IT9			IT10			JS13		
	Min.	Max.	Max.	Min.	Max.	Max.	Min.	Max.	Max.
-	3	0.025	-	+0.070	-0.070	-	-	-	-
3	6	0.030	-	+0.090	-0.090	-	-	-	-
6	10	0.036	-	+0.110	-0.110	-	-	-	-
10	18	0.043	-	+0.135	-0.135	-	-	-	-
18	30	0.052	-	+0.165	-0.165	-	-	-	-
30	50	0.062	-	+0.195	-0.195	-	-	-	-
50	80	-	0.120	+0.230	-0.230	-	-	-	-

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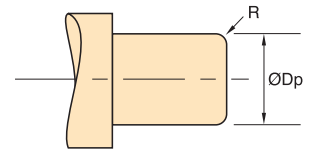
BOWMAN INTERNATIONAL LIMITED

10 Isis Court, Wyndyke Furlong, Abingdon Business Park, Abingdon, Oxfordshire, OX14 1DZ England

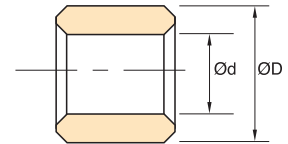
Tel +44 (0)1235 462500 Fax +44 (0)1235 462519 E-mail oilite@bowman.co.uk Website www.bowman.co.uk

German metric plain bearings to DIN 1850 – fitting data

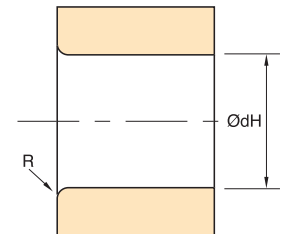
Part No.	Basic Sizes		ØdH (H7)		ØDp (m5)		Ødf (H7/H8)		ØDs (f7)	
	Ød	ØD	Max	Min	Min	Max	Min	Max	Min	Max
AD0306	3	6	6.000	6.012	3.002	3.006	3.000	3.010	2.984	2.984
AD0408	4	8	8.000	8.015	4.004	4.009	4.000	4.012	3.978	3.990
AD0509	5	9	9.000	9.015	5.004	5.009	5.000	5.012	4.978	4.990
AD0610	6	10	10.000	10.015	6.004	6.009	6.000	6.012	5.978	5.990
AD0612	6	12	12.000	12.018	6.004	6.009	6.000	6.012	5.978	5.990
AD0812	8	12	12.000	12.018	8.006	8.012	8.000	8.015	7.972	7.987
AD1016	10	16	16.000	16.018	10.006	10.012	10.000	10.015	9.972	9.987
AD1218	12	18	18.000	18.018	12.007	12.015	12.000	12.018	11.966	11.984
AD1420	14	20	20.000	20.021	14.007	14.015	14.000	14.018	13.966	13.984
AD1520	15	20	20.000	20.021	15.007	15.015	15.000	15.018	14.966	14.984
AD1622	16	22	22.000	22.021	16.007	16.015	16.000	16.018	15.966	15.984
AD1825	18	25	25.000	25.021	18.007	18.015	18.000	18.018	17.966	17.984
AD2026	20	26	26.000	26.021	20.008	20.017	20.000	20.021	19.959	19.980
AD2030	20	30	30.000	30.021	20.008	20.017	20.000	20.021	19.959	19.980
AD2228	22	28	28.000	28.021	22.008	22.017	22.000	22.021	21.959	21.980
AD2532	25	32	32.000	32.025	25.008	25.017	25.000	25.021	24.959	24.980
AD2836	28	36	36.000	36.025	28.008	28.017	28.000	28.021	27.959	27.980
AD3038	30	38	38.000	38.025	30.008	30.017	30.000	30.021	29.959	29.980
AD3040	30	40	40.000	40.025	30.008	30.017	30.000	30.021	29.959	29.980
AD3240	32	40	40.000	40.025	32.009	32.020	32.000	32.025	31.950	29.975
AD3545	35	45	45.000	45.025	35.009	35.020	35.000	35.025	34.950	34.975
AD4050	40	50	50.000	50.025	40.009	40.020	40.000	40.025	39.950	39.975
AD4556	45	56	56.000	56.030	45.009	45.020	45.000	45.025	44.950	44.975
AD5060	50	60	60.000	60.030	50.009	50.020	50.000	50.025	49.950	49.975



Fitting Pin



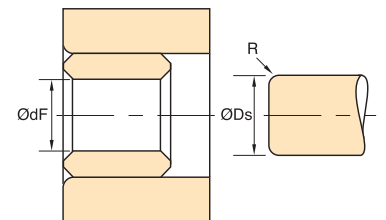
Free Bush



Housing

German metric flanged bearings to DIN 1850 – fitting data

Part No.	Basic Sizes		ØdH (H7)		ØDp (m5)		Ødf (H7/H8)		ØDs (f7)	
	Ød	ØD	Max	Min	Min	Max	Min	Max	Min	Max
AE0408	4	8	8.000	8.015	4.004	4.009	4.000	4.012	3.978	3.990
AE0610	6	10	10.000	10.015	6.004	6.009	6.000	6.012	5.978	5.990
AE0812	8	12	12.000	12.018	8.006	8.012	8.000	8.015	7.972	7.987
AE1016	10	16	16.000	16.018	10.006	10.012	10.000	10.015	9.972	9.987
AE1216	12	16	16.000	16.018	12.007	12.015	12.000	12.018	11.966	11.984
AE1420	14	20	20.000	20.021	14.007	14.015	14.000	14.018	13.966	13.984
AE1622	16	22	22.000	22.021	16.007	16.015	16.000	16.018	15.966	15.984
AE1824	18	24	24.000	24.021	18.007	18.015	18.000	18.018	17.966	17.984
AE2026	20	26	26.000	26.021	20.008	20.017	20.000	20.021	19.959	19.980



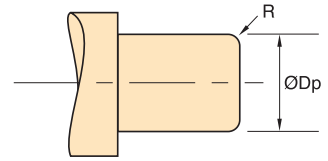
Fitted Bush

Shaft

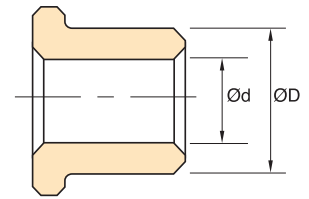
French metric flanged bearings – fitting data

Part No.	Basic Sizes		ØdH (H7)		ØDp (m5)		Ødf (H7/H8)		ØDs (f7)	
	Ød	ØD	Max	Min	Min	Max	Min	Max	Min	Max
AG0306	3	6	6.000	6.012	3.002	3.006	3.000	3.014	2.984	2.994
AG0408	4	8	8.000	8.016	4.004	4.009	4.000	4.018	3.978	3.990
AG0610	6	10	10.000	10.015	6.004	6.009	6.000	6.018	5.978	5.990
AG0812	8	12	12.000	12.018	8.006	8.012	8.000	8.022	7.972	7.987
AG0914	9	14	14.000	14.018	9.006	9.012	9.000	9.022	8.972	8.987
AG1013	10	13	13.000Ω	13.018	10.006	10.012	10.000	10.002	9.972	9.987
AG1015	10	15	15.000	15.018	10.006	10.012	10.000	10.022	9.972	9.987
AG1016	10	16	16.000	16.018	10.006	10.012	10.000	10.022	9.972	9.987
AG1215	12	15	15.000	15.018	12.007	12.015	12.000	12.027	11.966	11.984
AG1217	12	17	17.000	17.018	12.007	12.015	12.000	12.027	11.966	11.984
AG1218	12	18	18.000	18.018	12.007	12.015	12.000	12.027	11.966	11.984
AG1418	14	18	18.000	18.018	14.007	14.015	14.000	14.027	13.966	13.984
AG1420	14	20	20.000	20.021	14.007	14.015	14.000	14.027	13.966	13.984
AG1519	15	19	19.000	19.021	15.007	15.015	15.000	15.027	14.966	14.984
AG1521	15	21	21.000	21.021	15.007	15.015	15.000	15.027	14.966	14.984
AG1620	16	20	20.000	20.021	16.007	16.015	16.000	16.027	15.966	15.984
AG1622	16	22	22.000	22.021	16.007	16.015	16.000	16.027	15.966	15.984
AG1822	18	22	22.000	22.021	18.007	18.015	18.000	18.027	17.966	17.984
AG1824	18	24	24.000	24.021	18.007	18.015	18.000	18.027	17.966	17.984
AG2024	20	24	24.000	24.021	20.008	20.017	20.000	20.033	19.959	19.980
AG2026	20	26	26.000	26.021	20.008	20.017	20.000	20.033	19.959	19.980
AG2227	22	27	27.000	27.021	22.008	22.017	22.000	22.033	21.959	21.980
AG2228	22	28	28.000	28.021	22.008	22.017	22.000	22.033	21.959	21.980
AG2229	22	29	29.000	29.021	22.008	22.017	22.000	22.033	21.959	21.980
AG2530	25	30	30.000	30.021	25.008	25.017	25.000	25.033	24.959	24.980
AG2532	25	32	32.000	32.025	25.008	25.017	25.000	25.033	24.959	24.980
AG2833	28	33	33.000	33.025	28.008	28.017	28.000	28.033	27.959	27.980
AG2836	28	36	36.000	36.025	28.008	28.017	28.000	28.033	27.959	27.980
AG3038	30	38	38.000	38.025	30.008	30.017	30.000	30.033	29.959	29.980
AG3238	32	38	38.000	38.025	32.009	32.020	32.000	32.039	31.950	31.975
AG3240	32	40	40.000	40.025	32.009	32.020	32.000	32.039	31.950	31.975
AG3242	36	42	42.000	42.025	36.009	36.020	36.000	36.039	35.950	35.975
AG3645	36	45	45.000	45.025	36.009	36.020	36.000	36.039	35.950	35.975
AG4046	40	46	46.000	46.025	40.009	40.020	40.000	40.039	39.950	39.975
AG4050	40	50	50.000	50.025	40.009	40.020	40.000	40.039	39.950	39.975
AG4551	45	51	51.000	51.030	45.009	45.020	45.000	45.039	44.950	44.975
AG4556	45	56	56.000	56.030	45.009	45.020	45.000	45.039	44.950	44.975
AG5056	50	56	56.000	56.030	50.009	50.020	50.000	50.039	49.950	49.975
AG5060	50	60	56.000	56.030	50.009	50.020	50.000	50.039	49.950	49.975
AG6070	60	70	70.000	70.030	60.011	60.024	60.000	60.046	59.940	59.970

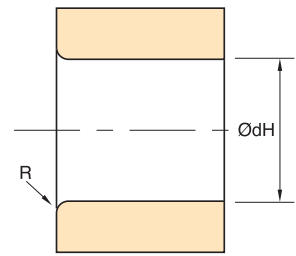
Note: For cylindrical bearings of Ø int > 60mm housing tolerance H8.



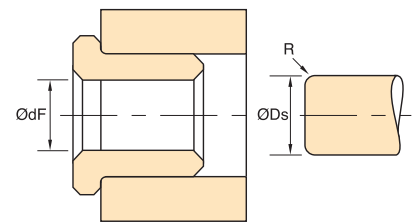
Fitting Pin



Free Bush



Housing

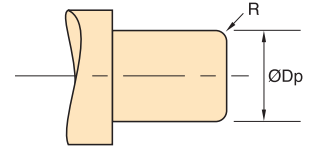


Fitted Bush

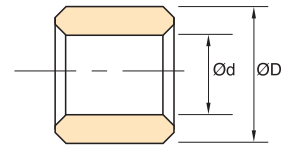
Shaft

Inch plain bearings – fitting data

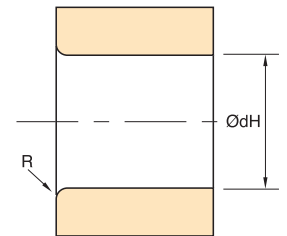
Part Code	Basic Sizes		Ø dH (H8)		Ø Dp		Ø dF			Ø Ds (f7) (except *)	
	Ø d	Ø D	Min.	Max.	Min.	Max.	Min.	Max.	Tol.	Min.	Max.
AI 0305	3/16	5/16	0.3125	0.3134	0.1877	0.1879	0.1876	0.1886		0.1866	0.1871
AI 0406	1/4	5/8	0.3750	0.3759	0.2502	0.2504	0.2500	0.2507	H8	0.2489	0.2495
AI 0407	1/4	7/16	0.4375	0.4385	0.2498	0.2500	0.2496	0.2506		0.2484*	0.2490*
AI 0408	1/4	1/2	0.5000	0.5010	0.2502	0.2504	0.2500	0.2504	H8	0.2489	0.2495
AI 0507	5/16	7/16	0.4375	0.4385	0.3127	0.3129	0.3125	0.3133	H8	0.3114	0.3120
AI 0508	5/16	1/2	0.5000	0.5010	0.3127	0.3129	0.3125	0.3131	H8	0.3114	0.3120
AI 0608	3/8	1/2	0.5000	0.5010	0.3752	0.3754	0.3750	0.3754	H8	0.3739	0.3745
AI 0610	3/8	5/8	0.6250	0.6260	0.3752	0.3754	0.3750	0.3759	H8	0.3739	0.3745
AI 0709	7/16	3/4	0.5625	0.5635	0.4377	0.4379	0.4375	0.4385	H8	0.4362	0.4369
AI 0711	7/16	11/16	0.6875	0.6885	0.4377	0.4379	0.4375	0.4385	H8	0.4362	0.4369
AI 0810	1/2	5/8	0.6250	0.6260	0.5002	0.5005	0.5000	0.5009	H8	0.4987	0.4994
AI 0811	1/2	11/16	0.6875	0.6885	0.5002	0.5005	0.5000	0.5012		0.4987	0.4994
AI 0812	1/2	3/4	0.7500	0.7512	0.5002	0.5005	0.5000	0.5010	H8	0.4987	0.4994
AI 0911	5/8	11/16	0.6875	0.6885	0.5625	0.5628	0.5625	0.5634	H8	0.5612	0.5619
AI 0912	5/8	3/4	0.7500	0.7512	0.5635	0.5638	0.5633	0.5644		0.5618*	0.5625*
AI 1012	3/4	1	0.7500	0.7512	0.6252	0.6255	0.6250	0.6263		0.6237	0.6244
AI 1013	3/4	13/16	0.8125	0.8137	0.6252	0.6255	0.6250	0.6269		0.6237	0.6244
AI 1014	3/4	7/8	0.8750	0.8762	0.6252	0.6255	0.6250	0.6259	H8	0.6237	0.6244
AI 1115	11/16	15/16	0.9375	0.9387	0.6877	0.6880	0.6875	0.6880	H8	0.6892	0.6869
AI 1214	3/4	7/8	0.8750	0.8762	0.7502	0.7505	0.7500	0.7513		0.7484	0.7492
AI 1215	3/4	15/16	0.9375	0.9387	0.7516	0.7519	0.7514	0.7531		0.7499*	0.7508*
AI 1216	3/4	1	1.0000	1.0012	0.7502	0.7505	0.7500	0.7512	H8	0.7484	0.7492
AI 1218	3/4	1 1/8	1.1250	1.1262	0.7502	0.7505	0.7500	0.7521		0.7484	0.7492
AI 1220	3/4	1 1/4	1.2000	1.2516	0.7502	0.7505	0.7500	0.7520		0.7484	0.7492
AI 1416	7/8	1	1.0000	1.0012	0.8752	0.8755	0.8750	0.8761	H8	0.8737	0.8744
AI 1418	7/8	1 1/8	1.1250	1.1262	0.8752	0.8755	0.8750	0.8761	H8	0.8737	0.8744
AI 1618	1	1 1/8	1.1250	1.1262	1.0002	1.0006	1.0000	1.0012	H8	0.9984	0.9992
AI 1620	1	1 1/4	1.2500	1.2516	1.0002	1.0006	1.0000	1.0012	H8	0.9984	0.9992
AI 1624	1	1 1/2	1.5000	1.5016	1.0002	1.0006	1.0000	1.0016		0.9984	0.9992
AI 1822	1 1/8	1 3/8	1.3750	1.3766	1.1252	1.1256	1.1250	1.1265		1.1234	1.1244
AI 2024	1 1/4	1 1/2	1.5000	1.5016	1.2502	1.2506	1.2500	1.2514	H8	1.2480	1.2490
AI 2026	1 1/4	1 5/8	1.6250	1.6266	1.2502	1.2506	1.2500	1.2526		1.2480	1.2490
AI 2226	1 3/8	1 3/4	1.6250	1.6266	1.3752	1.3756	1.3750	1.3765	H8	1.3730	1.3740
AI 2228	1 3/8	1 7/8	1.7500	1.7516	1.3752	1.3756	1.3750	1.3762	H8	1.3730	1.3740
AI 2428	1 1/2	1 3/4	1.7500	1.7516	1.5002	1.5006	1.5000	1.5014	H8	1.4980	1.4990
AI 2430	1 1/2	1 7/8	1.8750	1.8766	1.5002	1.5006	1.5000	1.5016	H8	1.4980	1.4990
AI 2432	1 1/2	2	2.0000	2.0018	1.5002	1.5006	1.5000	1.5025		1.4980	1.4990
AI 2633	1 5/8	2 1/16	2.0625	2.0643	1.6252	1.6258	1.6250	1.6274		1.6230	1.6240
AI 2832	1 3/4	2	2.0000	2.0018	1.7502	1.7508	1.7500	1.7515	H8	1.7480	1.7490
AI 2836	1 3/4	2 1/4	2.2500	2.2518	1.7502	1.7508	1.7500	1.7515	H8	1.7480	1.7490
AI 3236	2	2 1/4	2.2500	2.2518	2.0002	2.0008	2.0000	2.0015	H8	1.9976	1.9988
AI 3240	2	2 1/2	2.5000	2.5018	2.0002	2.0008	2.0000	2.0011	H8	1.9976	1.9988
AI 3642	2 1/4	2 3/4	2.6250	2.6268	2.2502	2.2508	2.2500	2.2536		2.2476	2.2488
AI 3644	2 1/4	2 3/4	2.7500	2.7518	2.2502	2.2508	2.2500	2.2512	H8	2.2476	2.2488
AI 4048	2 1/2	3	3.0000	3.0018	2.5002	2.5008	2.5000	2.5013	H8	2.4976	2.4988
AI 4856	3	3 1/2	3.4980	3.5003	2.9957	2.9967	2.9955	2.9986		2.9922*	2.9940*



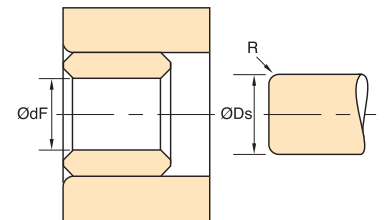
Fitting Pin



Free Bush



Housing

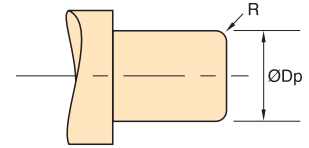


Fitted Bush

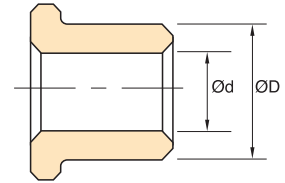
Shaft

Inch flanged bearings – fitting data

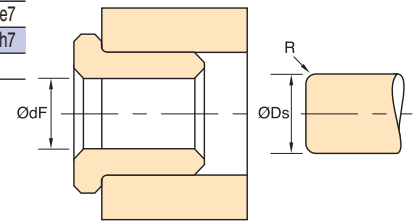
Part Code	Basic Sizes		Ø dH (H8)		Ø Dp		Ø dF			Ø Ds (f7) (except *)	
	Ø d	Ø D	Min.	Max.	Min.	Max.	Min.	Max.	Tol.	Min.	Max.
AJ 0305	3/16	5/16	0.3125	0.3134	0.1877	0.1879	0.1875	0.1883	H8	0.1866	0.1871
AJ 0406	1/4	5/16	0.3750	0.3759	0.2502	0.2504	0.2500	0.2504	H8	0.2489	0.2495
AJ 0508	5/16	1/2	0.5000	0.5010	0.3127	0.3129	0.3125	0.3127	H8	0.3114	0.3120
AJ 0509	5/16	5/16	0.5625	0.5635	0.3116	0.3118	0.3114	0.3121		0.3100*	0.3109*
AJ 0608	3/8	1/2	0.5000	0.5010	0.3752	0.3754	0.3750	0.3756	H8	0.3739	0.3745
UJ 0608	3/8	1/2	0.5000	0.5010	0.3752	0.3754	0.3750	0.3752	H8	0.3739	0.3745
AJ 0609	3/8	5/16	0.5625	0.5635	0.3744	0.3746	0.3742	0.3748		0.3739*	0.3745*
AJ 0610	3/8	3/8	0.6250	0.6260	0.3752	0.3754	0.3750	0.3758	H8	0.3739	0.3745
AJ 0709	7/16	5/8	0.5625	0.5635	0.4390	0.4392	0.4388	0.4401		0.4376*	0.4383*
AJ 0810	1/2	3/4	0.6250	0.6260	0.4997	0.4999	0.4995	0.5001	J8	0.4981*	0.4988*
AJ 0812	1/2	3/4	0.7500	0.7512	0.5002	0.5005	0.5000	0.5009	H8	0.4987	0.4994
AJ 1012	5/8	3/4	0.7500	0.7512	0.6266	0.6269	0.6264	0.6275		0.6251*	0.6258*
AJ 1014	5/8	7/8	0.8750	0.8762	0.6252	0.6255	0.6250	0.6259	H8	0.6237	0.6244
AJ 1216	3/4	1	1.0000	1.0012	0.7502	0.7505	0.7500	0.7512	H8	0.7484	0.7492
AJ 1416	7/8	1	1.0000	1.0012	0.8752	0.8755	0.8750	0.8761	H8	0.8737	0.8744
AJ 1418	7/8	1 1/8	1.1250	1.1262	0.8752	0.8755	0.8750	0.8761	H8	0.8737	0.8744
AJ 1620	1	1 1/4	1.2500	1.2516	1.0002	1.0006	1.0000	1.0012	H8	0.9984	0.9994
UJ 1620	1	1 1/4	1.2500	1.2516	1.0007	1.0010	1.0050	1.0017		0.9993*	1.0000*
AJ 1822	1 1/8	1 3/8	1.3750	1.3766	1.1252	1.1256	1.1250	1.1262	H8	1.1234	1.1244
AJ 2024	1 1/4	1 1/2	1.5000	1.5016	1.2502	1.2506	1.2500	1.2514	H8	1.2480	1.2490
AJ 2026	1 1/4	1 3/8	1.6250	1.6266	1.2502	1.2506	1.2500	1.2515	H8	1.2480	1.2490
AJ 2226	1 3/8	1 3/8	1.6250	1.6266	1.3740	1.3744	1.3738	1.3752		1.3720*	1.3730*
AJ 2428	1 1/2	1 3/4	1.7485	1.7502	1.5012	1.5016	1.5010	1.5020	F8	1.4990*	1.5000*
AJ 2430	1 1/2	1 3/4	1.8750	1.8766	1.5002	1.5006	1.5000	1.5015	H8	1.4980	1.4990



Fitting Pin



Free Bush



Fitted Bush

Shaft

Inch stock tolerances

Tolerances

Plain Bearings

Length: $L \leq 1\frac{1}{2}'' \pm 0.005''$
 $L > 1\frac{1}{2}'' \leq 3'' \pm 0.010''$

Concentricity: Full indicated movement, D with respect to d;

$d < \frac{1}{2}''$ 0.002" max
 $d > \frac{1}{2}'' < 1\frac{1}{2}''$ 0.003" max
 $d > 1\frac{1}{2}''$ 0.004" max

Flanged Bearings

Length: $L \leq 1\frac{1}{2}'' \pm 0.005''$
 $L > 1\frac{1}{2}'' \leq 3'' \pm 0.010''$

Flange thickness $e \pm 0.003''$
 Flange diameter $D1 \pm 0.005''$

$d < \frac{1}{2}''$ 0.002" max
 $d > \frac{1}{2}'' < 1\frac{1}{2}''$ 0.003" max
 $d < 1\frac{1}{2}''$ 0.004" max

Chamfers: 45° chamfers are incorporated on inside and outside diameters at each end of bush. Chamfer length varies with bush wall thickness and outside diameter.

Radii: Radii varies with bush wall thickness and outside diameter. Contact our Technical Department for details.

Machining Recommendations for Sintered Bearings

Machining of self-lubricating bearings should be avoided whenever possible in order to maintain the best bearing properties. When machining is absolutely unavoidable it is important that the recommendations below are followed. Machining should be carried out with the bearing impregnated with oil if possible.

Oilube Bronze, Oilube Ferro Bronze and Graphite Bronze can be turned. Diamond or carbide tips, quality ISO K 20, with a tip radius of 0.1/0.2mm max. should be used for final turning. Suitable cutting speeds are:- for Oilube Bronze and Graphite Bronze 100-200 m/min. and for Ferro Bronze 50-100 m/min.

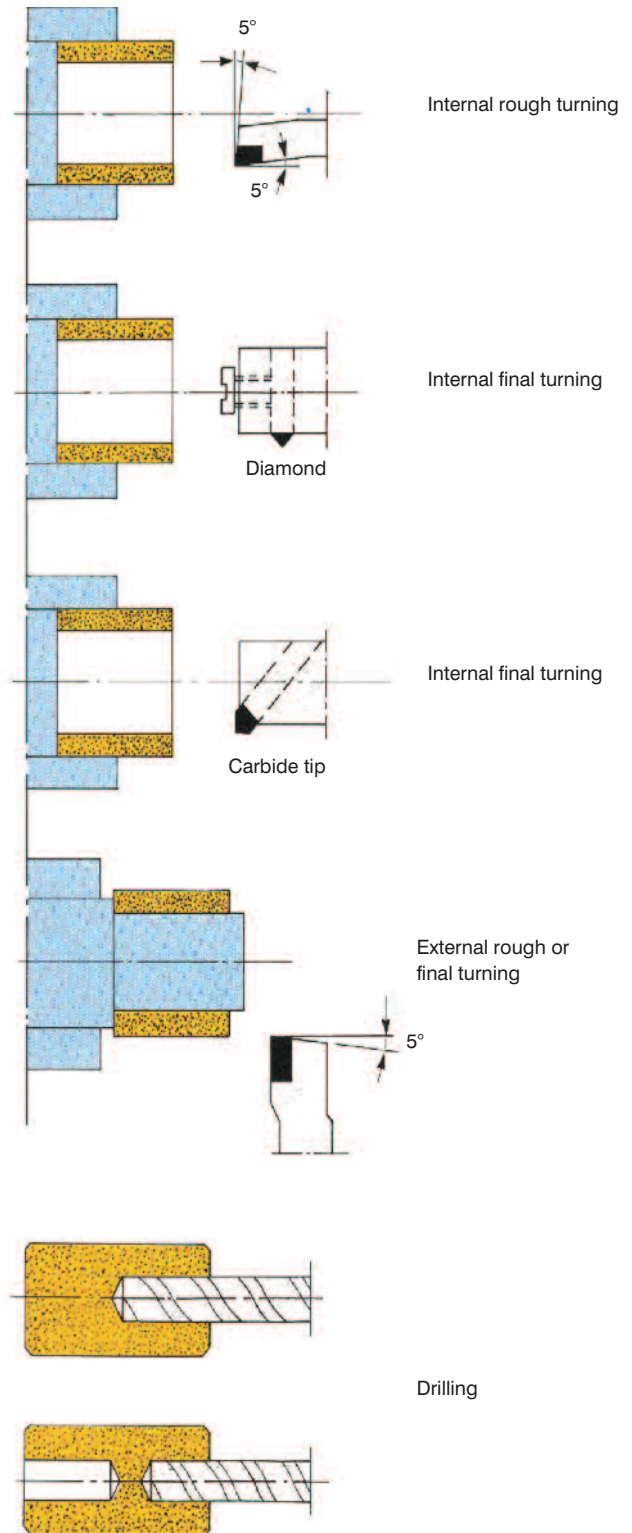
It is imperative that the bearings are thoroughly cleaned after machining to remove any turning debris.

The bearing surface of self-lubricating bearings must not be ground, as the oil transportation pores are then closed. The outer surface of the bearing can, however, be machined in any way required. If external additional lubrication is used then even the pores on the outside diameter must be kept open.

The bearing can be heated on an electrical hot plate after machining to check that the pores are still open. Oil will then ooze out of the bearing.

Bearings usually lose oil during the turning operation and the oil should be replaced before the bearing is used. A simple method of doing this is by immersing the bearing in oil SAE 20 heated to 80 degrees C. The bearing should be immersed until the oil has cooled. The pores are filled with the oil by this process and the bearing is then ready for use.

The edge strength of the Graphite Bronze is rather low and special care should therefore be taken when turning end surfaces. When drilling, the bearing should be placed as shown in the adjoining sketches.



Inspection Room



Bowmans new inspection room has been equipped with the latest state of the art Mitutoyo inspection equipment and other supporting equipment.

On the right is the **Mitutoyo Coordinate Measuring Machine QM-M 333**

This machine is a fast, precise and flexible instrument for making manual 3D measurements.

- Fast, simple menu-based measuring procedures allow workpiece features to be measured directly without needing to deal with co-ordinates.
- High measuring precision with fast, direct processing of measurement data.
- Unique 'open space' design permits easy loading and unloading with obstructed access for the operator.
- Integrated thermal-effect compensation system for instrument and workpiece, effective over the temperature range 15 to 30°C.
- Complete with printer

On the left is the **Mitutoyo Form Measurement Roundtest Machine RA-114**

Compact, stand-alone equipment for precise, effective and easy form measurement. The large, easy to read display shows measurement results at a glance. Excellent for checking concentricity and roundness.

- Stand-alone machine with built-in processor and display
- Simple manual alignment of workpiece
- Large centring range
- Built-in printer

In the centre is the **Mitutoyo Quick Scope**

Manual vision system for reliable, non-contact precision measurement. A compact, economical desktop instrument for uncomplicated measurements of single parts.

- Objective 2.5X as standard
- Power zoom allows for fast and easy magnification change

In addition to supplying inspection equipment, Mitutoyo also offers Bowman comprehensive support and training delivered by highly skilled engineers, along with a calibration service to ensure that high levels of accuracy are maintained.

This equipment enables Bowman to maintain their high quality standards.



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Oilite[®] Sintered Bearings and Structural Parts
A leading force in precision component manufacturing

For more than 80 years OILITE[®] has been at the forefront of precision engineering component manufacture.

OILITE[®] products range from pump components, sprockets, ABS rings, gears, exhaust flanges to tooth belt pulleys. Service for the European market is handled from our headquarters in the United Kingdom.

Innovative problem solving combined with our strong manufacturing and technical expertise puts us in the best possible position to service our markets.

Our flexible manufacturing approach and technical competence allows for tight deadlines, competitive pricing and comparatively small volumes as our systems are designed with our customers most pragmatic needs in mind. Our organisation is geared so that small volumes aren't a limiting factor and provide extremely cost-effective solutions.

Bowman, working in partnership with our customers, deliver the best possible solutions to suit their needs. Our dedicated design, production, engineering and sales teams aim is to provide a personal service which will exceed our customers expectations.



BOWMAN INTERNATIONAL LIMITED

10 Isis Court, Wyndyke Furlong, Abingdon Business Park, Abingdon, Oxfordshire, OX14 1DZ England
Tel +44 (0)1235 462500 Fax +44 (0)1235 462519 E-mail oilite@bowman.co.uk Website www.bowman.co.uk



All available in our Bearings and Components catalogue



Lubricated Sliding Bearings



Oil or grease lubricated bearings. Carbon steel shell with sintered bronze layer with a co- acetal polymer layer. Available in metric and imperial sizes from stock.



Dry Sliding Bearings



Self lubricated plain & flanged bearings & strip. Carbon steel shell with sintered bronze layer filled with PTFE. Available in metric and imperial sizes from stock. Also bronze shell versions can be supplied to order.

White Metal Bearings



White metal bearings can be manufactured to order in various material grades.

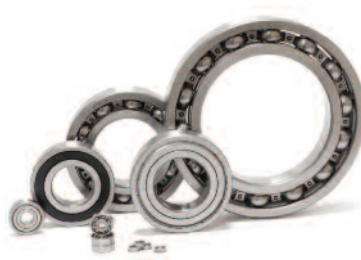
Standard Wrapped Bearings



Oil or grease lubricated bearings. Carbon Steel shell with sintered bronze lining. Various metric and imperial sizes available from stock.



Ball Bearings



Ball bearings in chrome or stainless steel. ABEC 1, 3 or 5. With or without seals. Various ranges available from stock.

Plastic Bearings Moulded & Machined



Available in metric sizes from stock. Can also be manufactured in many different types of plastic material to suit various applications. Machined for small quantities and moulded for large quantities.

Cast Bronze Bearings with Solid Graphite Lubrication



Various material specifications are offered. Standard and special shapes are available.

Machined Parts



Standard bearings modified. Custom shafts and bearings manufactured in cast bronze, plastic and other materials.

CuSn8 Hard Bronze Bearings



Offered with lubrication pockets, grooves or thru holes. Used for heavy load applications.



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Design

Bowman can aid your design department in the application and design of bearings & their associated components, along with sintered shapes. CAD drawings for components and assemblies can be provided.

Lubrication and re-lubrication

Besides lubricating new production bearings, a re-lubrication service is offered to our customers. A considerable range of lubricants, for many applications are stocked and others can be provided to accommodate our customers' special requirements.

Quality

Bowman is accredited by LRQA to BS EN 9001-2008. Certificates of conformity, ISIR's or PPAP submissions can be provided along with material analysis reports, produced using our in-house test facilities or at independent laboratories. Bowman is approved by several aerospace and military equipment manufacturers as well as the UK ministry of defence. An extensive range of measuring and testing equipment supports our continuous quality improvement programme.

Machining

Bowman's in-house machining facility enables rapid response to customers requiring modifications to standard bearings across our ranges, or complete specials. Sample bearings can be produced quickly for prototype testing using production specification materials before committing to production tooling. Cast bronze bearings are also made to order.

Logistic support

We offer a next day delivery service on our stock ranges. For OEM and schedule customers we offer JIT, Kan Ban & other tailored delivery plans. We are helping many of our customers reduce their purchasing & administration costs by delivering a total bearing and component solution.

Consolidation

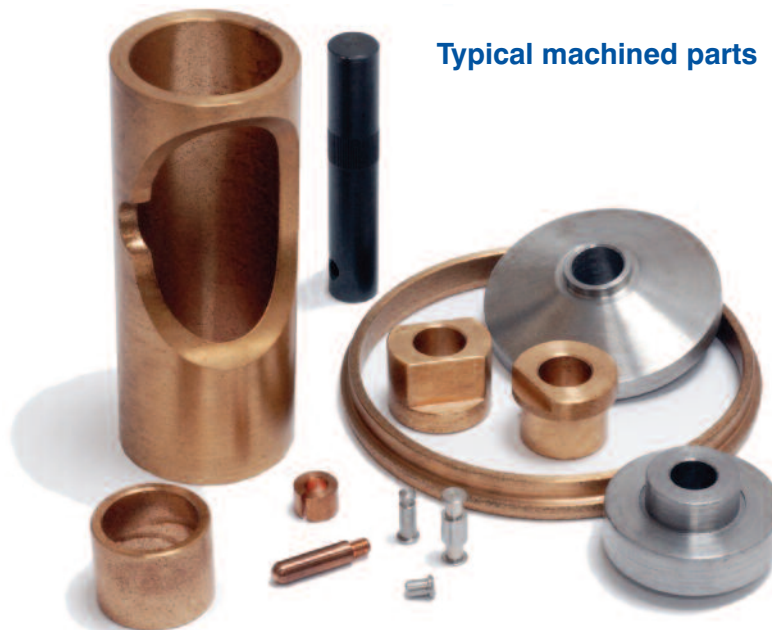
- One supplier
- One purchase order
- One delivery
- Consolidated invoicing
- One statement
- One monthly payment

Website

Our new comprehensive website gives buyers and engineers a quick access to detailed information on all of our stock ranges and services. To further aid designers, there is a unique bearing calculator function which gives invaluable access to all the design criteria necessary to make informed application decisions. This is in addition to our technical expertise that is available for our customers to call on at any time.

Exports

Bowman exports to 26 countries within the EEC and throughout the rest of the world.



Typical machined parts

BOWMAN INTERNATIONAL LIMITED

10 Isis Court, Wyndyke Furlong, Abingdon Business Park, Abingdon, Oxfordshire, OX14 1DZ England
Tel +44 (0)1235 462500 Fax +44 (0)1235 462519 E-mail oilite@bowman.co.uk Website www.bowman.co.uk





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BOWMAN INTERNATIONAL LIMITED

10 Isis Court, Wyndyke Furlong, Abingdon Business Park, Abingdon, Oxfordshire, OX14 1DZ England

Tel +44 (0)1235 462500 Fax +44 (0)1235 462519

E-mail oilite@bowman.co.uk Websites www.bowman.co.uk

www.oilitebearings.com (European Customers) www.oilite.com (USA and Canadian Customers)