



CARTRIDGES AND PEDESTALS

CARTRIDGES

Bowman split roller bearings are mounted within an inner housing which in turn is mounted within an outer housing. The outer housing connects the Bowman split bearing unit to the mounting structure. This joint between the inner and outer housings allows misalignment between the shaft and the mounting structure and reduces edge-loading of the bearing.

Whilst providing location for the bearing the inner housing also contains the 3D printed triple-labyrinth seals which, remain concentric to the shaft even with shaft/mounting structure misalignment. Triple-labyrinth seals are fitted to the shaft and rotate within close tolerances to the inner housing, resulting in efficient non-contact sealing for a wide range of environmental conditions.

Bowman inner housings are manufactured from high strength ductile cast iron and can be installed in outer housings (such as pedestals, flanges, take-up units etc) from other split roller bearing manufacturers.

There are two different Bowman inner housings for each bearing group size - one to fit the Light/01/E Series outer housings of other manufacturers, and one to fit the Medium/02 Series. This is because of the high capacities of the Bowman bearings which are in most cases suitable as a direct interchange for both other manufacturers bearing series.

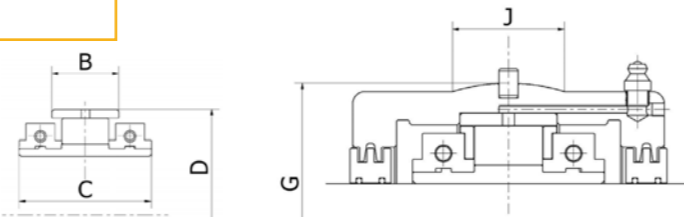
PEDESTALS

Bowman split roller bearing unit outer housings are designed to be interchangeable with existing split roller bearing manufacturers outer housings and hence share the spherical ball socket dimensions, heights to shaft centre, base foot print and fixing bolt dimensions. Bowman outer housings are

manufactured from high strength ductile cast iron. Bowman can also provide bespoke outer housings to order, as well as our unique stepped pedestals which enable our units to be fitted under an existing shaft in situ.

PRODUCT RANGE AND DIMENSIONS

ROLLER BEARINGS AND INNER HOUSINGS (CARTRIDGES)



SIZE GROUP	B (E7) (mm)	C (mm)	D Ø (H7) (mm)	AXIAL FLOAT REF (i) (mm)	INNER HOUSING REF (ii)	G Ø (g6) (mm)	J (mm)	INNER HOUSING REF (iii)	G Ø (g6) (mm)	J (mm)
108	30	62.7	84.14	9	C1	100.00	25	-	-	-
200	32	63.7	98.42	10	C2	117.48	25	C2A	134.94	32
208	35	68.7	114.30	12	C3	134.94	32	C3A	157.16	38
300	40	78.7	133.35	12	C4	157.16	38	C4A	177.80	50
308	51	88.7	152.40	17	C5	177.80	50	C5A	203.20	50
400	59	94.7	174.62	17	C6	203.20	50	C6A	231.78	64
408	60	109.7	203.20	19	C7	231.78	64	C7A	266.70	76
500	71	116.7	222.25	20	C8	266.70	76	C8A	295.28	82
508	73	121.7	241.30	23	C9	279.40	76	C9A	323.85	90
600	73	121.7	254.00	23	C10	295.28	82	C10A	336.55	95
608	65	136.7	273.05	11	C11	311.15	76	C11A	368.30	95
700	65	136.7	285.75	11	C12	323.85	70	C12A	381.00	95
800	65	144.7	311.15	11	C13	358.78	86	C13A	425.50	105
900	70	148.7	342.90	12	C14	387.35	82	C14A	457.20	110
1000	70	148.7	374.65	12	C15	419.10	90	C15A	495.30	118
1100	77	175.2	406.40	13	C16	454.00	95	C16A	527.10	130
1200	77	175.2	438.15	13	C17	489.00	98	C17A	552.50	128

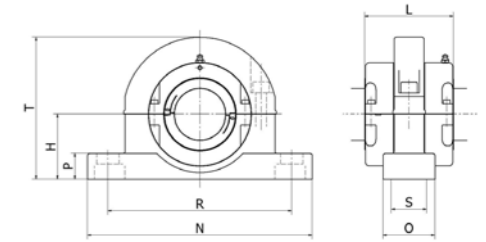
Ref (i) Total axial float. Maximum offset from centreline is half of this amount
 Ref (ii) Bowman Inner housings to match 'Light' or '01/E' series from other manufacturers
 Ref (iii) Bowman Inner housings to match 'Medium' or '02/E' series from other manufacturers

Notes:
 1) Spherical diameter of corresponding outer housing requires G7 tolerance
 2) Recess / abutment for inner race would require D11 tolerance on race width C
 3) Recommended abutment diameter and shaft fillet radii:

For bearings up to and including 308 group: +5mm on shaft diameter and maximum 1.2mm fillet radii

For bearings from 400 to 1200 group: +10mm on shaft diameter and maximum 2.3mm fillet radii

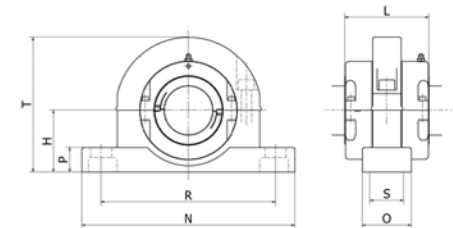
OVERALL DIMENSIONS INTERCHANGEABLE 01/01E/LIGHT/S1 LIGHT OUTER HOUSINGS (PEDESTALS)



SIZE GROUP	H (mm)	R		S (mm)	FIXING BOLTS	N (mm)	O (mm)	P (mm)	T (mm)	L (mm)	BOWMAN REF
		MIN (mm)	MAX (mm)								
108	60	172	192	-	M12	228	60	22	138	105	PED1
200	70	203	227	-	M16	270	60	25	158	106	PED2
208	80	226	242	-	M16	280	70	32	180	120	PED3
300	95	260	280	-	M20	330	76	38	208	131	PED4
308	112	312	328	-	M24	380	90	44	252	148	PED5
400	125	342	366	-	M24	420	102	52	272	154	PED6
408	143	374	410	-	M24	466	120	60	314	179	PED7
500	162	438	462	120	M24	508	178	38	372	191	PED8
508	181	470	494	120	M24	558	178	41	405	198	PED9
600	181	484	508	120	M24	558	178	41	415	208	PED10
608	213	356	380	114	M24	508	178	32	430	228	PED11
700	235	376	400	128	M24	534	190	35	470	234	PED12
800	248	410	434	140	M24	572	204	38	495	242	PED13
900	270	440	480	140	M30	636	216	40	540	256	PED14
1000	292	482	522	140	M30	686	228	44	585	256	PED15
1100	311	514	554	140	M30	724	228	48	620	283	PED16
1200	343	564	604	178	M30	762	254	50	685	283	PED17

Notes:
 1) Overall length (L) is taken over seals
 2) Pedestal design shown for representation only

OVERALL DIMENSIONS INTERCHANGEABLE 02/02E/MEDIUM/S2 SERIES OUTER HOUSINGS (PEDESTALS)



SIZE GROUP	H (mm)	R		S (mm)	FIXING BOLTS	N (mm)	O (mm)	P (mm)	T (mm)	L (mm)	BOWMAN REF
		Min (mm)	Max (mm)								
200	80	226	242	-	Ø16	280	70	32	180	106	PED3
208	95	260	280	-	Ø20	330	76	38	208	120	PED4
300	112	312	328	-	Ø24	380	90	44	252	131	PED5
308	125	342	366	-	Ø24	420	102	52	272	148	PED6
400	143	374	410	-	Ø24	466	120	60	314	154	PED7
408	162	438	462	120	Ø24	508	178	38	372	179	PED8
500	181	484	508	120	Ø24	558	178	41	415	191	PED10
508	203	534	558	120	Ø24	610	178	51	460	198	PED9A
600	210	546	570	128	Ø24	636	204	50	470	208	PED10A
608	267	428	468	172	M30	596	242	44	535	228	PED11A
700	273	438	478	166	M30	636	242	44	545	234	PED12A
800	305	488	528	190	M30	686	266	50	610	242	PED13A
900	324	530	570	190	M36	750	280	50	650	256	PED14A
1000	356	576	616	204	M36	812	292	54	710	256	PED15A
1100	378	514	554	254	M30	914	330	60	760	283	PED16A
1200	394	546	586	254	M30	958	330	60	790	283	PED17A

Notes:
 1) Overall length (L) is taken over seals
 2) Pedestal design shown for representation only