

MBT, MBT-V

Spherical Self Lubricating Standard

2023/03/22

Feature of a Product

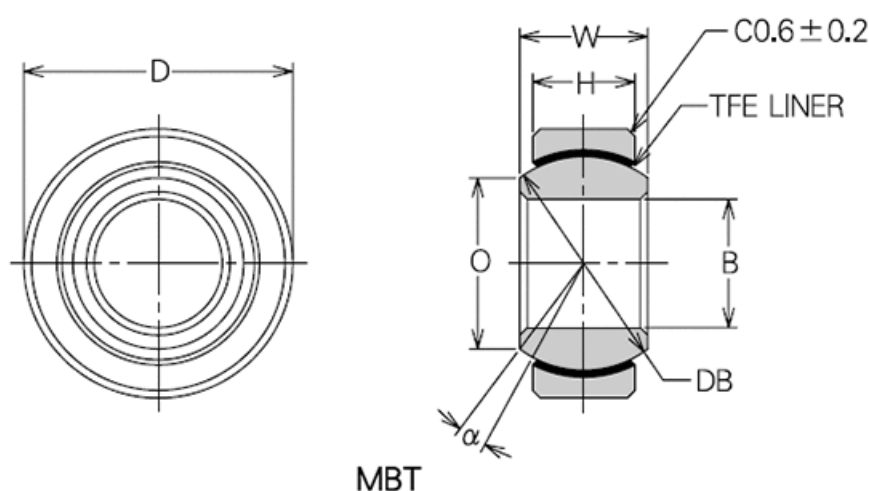
- Self Lubricating.

The PTFE lining is bonded to the inner diameter of the race. The PTFE Liner acts as a lubricant and therefore no other lubrication is necessary. Thus they are eminently suitable to apply where re-lubrication is impractical or impossible. More over, as they don't require any lubrication, they are effective to lower the maintenance cost. They perform well under slow fluctuation velocity and oscillation load. Therefore PTFE type can induce the difficulties of metal/metal type such as high friction, seizure, fatigue destruction and fretting on the fluctuating surface.

Material

(P/N)	RACE	BALL	LINER
MBT, MBT-V	410 Stainless Steel	440C Stainless Steel	PTFE / Fabric

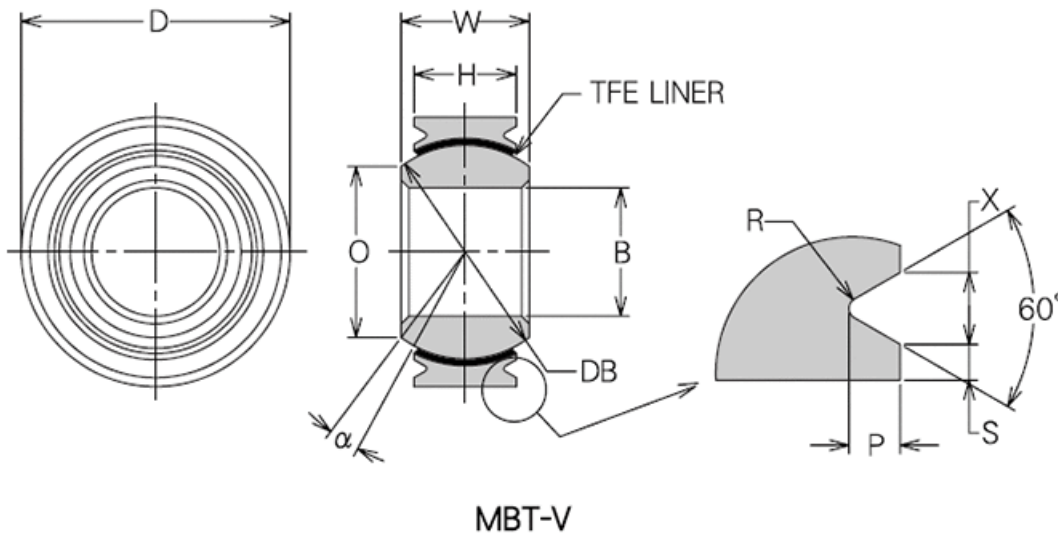
Overall View



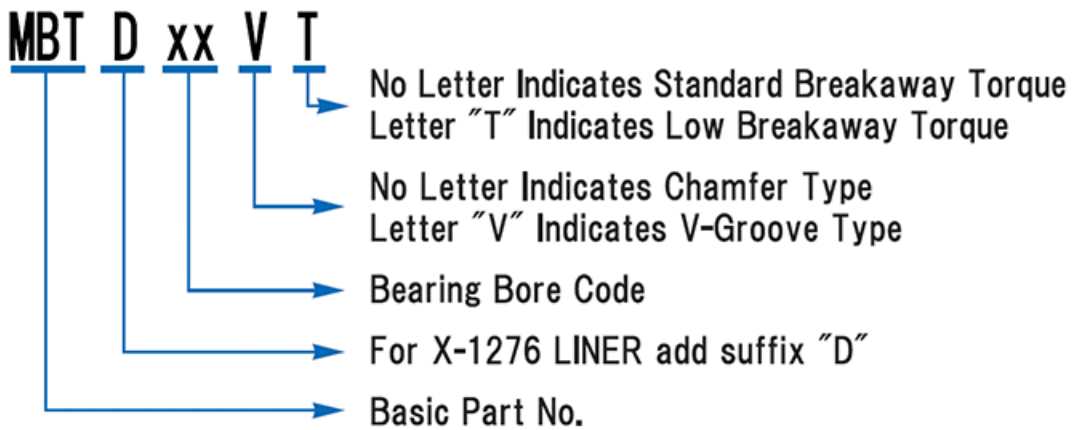
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Part Number



Dimension

Dimensions in mm

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Part No.	øB H7	φD 0-0.013	W 0-0.13	H ±0.13	α DEG	øO(REF)
MBT3/MBT3V	3	10.0	5.0	3.50	15	5.1
MBT4/MBT4V	4	12.0	6.5	4.50	17	5.8
MBT5/MBT5V	5	14.5	7.0	5.50	10	7.6
MBT6/MBT6V	6	16.5	8.5	6.50	11	9.4
MBT8/MBT8V	8	19.0	9.5	7.00	12	10.7
MBT10/MBT10V	10	21.0	10.0	8.00	8	13.3
MBT12/MBT12V	12	25.0	13.0	10.00	10	15.0
MBT14/MBT14V	14	27.5	14.0	11.00	8	18.3
MBT15/MBT15V	15	29.0	15.0	12.00	8	19.5
MBT16/MBT16V	16	30.0	16.0	12.50	10	18.7
MBT18/MBT18V	18	34.0	18.0	14.00	9	22.2
MBT20/MBT20V	20	36.0	19.0	15.00	9	23.4
MBT22/MBT22V	22	40.0	22.0	18.00	8	25.0
MBT25/MBT25V	25	45.0	25.0	20.00	9	28.8
MBT28/MBT28V	28	50.0	28.0	22.00	9	34.0
MBT30/MBT30V	30	56.0	30.0	23.00	10	37.0

Part No.	SøDB(REF)	No Load Rotational Breakaway Torque - Standerd Type lower limit [N·m]	No Load Rotational Breakaway Torque - Standerd Type upper limit [N·m]	No Load Rotational Breakaway Torque - Standerd Type lower limit [kgf·cm]	No Load Rotational Breakaway Torque - Standerd Type upper limit [kgf·cm]	Staking groove S 0-0.25	Staking groove X 0-0.25
MBT3/MBT3V	7.144	0.12	0.57	1.2	5.8	0.5	1.0
MBT4/MBT4V	8.731	0.12	0.57	1.2	5.8	0.5	1.0
MBT5/MBT5V	10.319	0.12	0.57	1.2	5.8	0.5	1.0
MBT6/MBT6V	12.700	0.12	0.57	1.2	5.8	0.7	1.4
MBT8/MBT8V	14.288	0.12	0.57	1.2	5.8	0.7	1.4
MBT10/MBT10V	16.669	0.12	0.57	1.2	5.8	0.7	1.4
MBT12/MBT12V	19.844	0.12	0.57	1.2	5.8	0.7	2.0
MBT14/MBT14V	23.019	0.12	0.57	1.2	5.8	0.7	2.0
MBT15/MBT15V	24.606	0.12	0.57	1.2	5.8	0.7	2.0
MBT16/MBT16V	24.606	0.12	0.57	1.2	5.8	0.7	2.0
MBT18/MBT18V	28.575	0.12	0.57	1.2	5.8	0.7	2.0
MBT20/MBT20V	30.162	0.12	0.57	1.2	5.8	0.7	2.0
MBT22/MBT22V	33.338	0.23	0.90	2.3	9.2	0.7	2.0
MBT25/MBT25V	38.100	0.23	0.90	2.3	9.2	0.7	2.0

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MBT28/MBT28V	44.053	0.23	0.90	2.3	9.2	0.7	2.0
MBT30/MBT30V	47.625	0.23	0.90	2.3	9.2	0.7	2.0
Part No.	Staking groove R 0-0.25	Staking groove P 0-0.4	Static Limit load(Radial) [kN]	Static Limit load(Axial) [kN]	Dynamic Load [kN]	Approx. Weight [g]	
MBT3/MBT3V	0.4	0.7	7.84	0.98	3.43	3	
MBT4/MBT4V	0.4	0.7	12.74	1.56	5.88	4	
MBT5/MBT5V	0.4	0.7	18.63	2.45	8.72	7	
MBT6/MBT6V	0.5	1.0	30.40	3.43	13.72	11	
MBT8/MBT8V	0.5	1.0	37.26	3.92	16.67	14	
MBT10/MBT10V	0.5	1.0	50.01	5.19	22.55	19	
MBT12/MBT12V	0.5	1.5	74.53	8.33	33.34	32	
MBT14/MBT14V	0.5	1.5	101.98	15.69	45.11	42	
MBT15/MBT15V	0.5	1.5	118.66	18.63	52.95	50	
MBT16/MBT16V	0.5	1.5	123.56	20.39	54.91	53	
MBT18/MBT18V	0.5	1.5	161.80	25.49	72.56	78	
MBT20/MBT20V	0.5	1.5	182.40	29.41	81.39	89	
MBT22/MBT22V	0.5	1.5	243.20	42.16	108.85	130	
MBT25/MBT25V	0.5	1.5	308.90	51.97	138.27	185	
MBT28/MBT28V	0.5	1.5	393.24	63.74	176.51	255	
MBT30/MBT30V	0.5	1.5	444.24	69.62	199.07	350	

Notes

1. PTFE liner permanently bonded to race I.D.
2. MBT & MBT-V weights are similar.
3. Made to order only.
4. No Load Rotational Breakaway Torque.
Low Torque All Size: 0.02N · m MAX (Radial Clearance 0.05mm MAX)

*Please consult MinebeaMitsumi for availability of bearings in this series.