

# SBT

**SPHERICAL | SELF-LUBRICATING | WIDE**

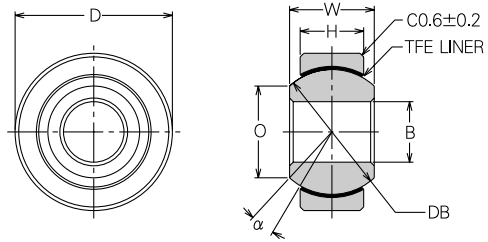
**Materials**

RACE 410 Stainless Steel / Heat Treated  
 BALL 440C Stainless Steel / Heat Treated  
 LINER Teflon / Fabric

**Description of Types**

**SBT D xx T**

- No Letter Indicates Standard Breakaway Torque
- Letter "T" Indicates Low Breakaway Torque
- Bearing Bore Code
- For X-1276 LINER add suffix "D"
- Basic Part No.



SBT

Dimensions in mm

MINEBEA Part No.	φB H7	φD 0 - 0.013	W 0 - 0.13	H ± 0.13	α (deg.)	φO Ref.	SφDB Ref.	No Load Rotational Breakaway Torque N · m	Static Limit Load kN		Dynamic Load kN	Approx. Weight g
								Standard	Radial	Axial		
SBT3	3	12	6	4.50	11	6.8	9.042	0.06 ~ 0.57 {0.6 ~ 5.8kgf · cm}	13.72	1.56	6.27	5
SBT4	4	14	7	5.25	12	7.6	10.319		17.65	2.25	8.04	7
SBT5	5	16	8	6.00	11	8.8	11.906	0.12 ~ 0.57 {1.2 ~ 5.8kgf · cm}	24.51	2.94	11.17	10
SBT6	6	18	9	6.75	10	11.1	14.288		36.28	3.72	16.57	14
SBT8	8	22	12	9.00	12	12.7	17.462		58.83	6.76	26.87	26
SBT10	10	26	14	10.50		15.2	20.638		81.39	9.21	37.16	42
SBT12	12	30	16	12.00	11	17.6	23.812		114.73	18.63	52.46	62
SBT14	14	34	19	13.50	14	19.2	26.988		147.09	23.53	67.27	89
SBT16	16	38	21	15.00	13	22.7	30.956	186.32	29.41	85.12	125	
SBT18	18	42	23	16.50		24.1	33.338	215.74	35.30	98.65	165	
SBT20	20	46	25	18.00	12	28.8	38.100	0.23 ~ 0.90 {2.3 ~ 9.2kgf · cm}	274.58	42.16	125.52	220
SBT22	22	50	28	20.00	13	30.3	41.275		333.42	51.97	152.39	285
SBT25	25	56	31	22.00	14	32.4	44.847	0.33 ~ 1.70 {3.4 ~ 17.3kgf · cm}	404.03	65.21	184.65	380
SBT30	30	66	37	25.00	16	38.2	53.181		545.24	84.33	249.28	605

**Notes**

1. Teflon liner permanently bonded to race I.D.
  2. Made to order only.
  3. No Load Rotational Breakaway Torque.  
 Low Torque All Size: 0.02N · m MAX  
 (Radial Clearance 0.05mm MAX)
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

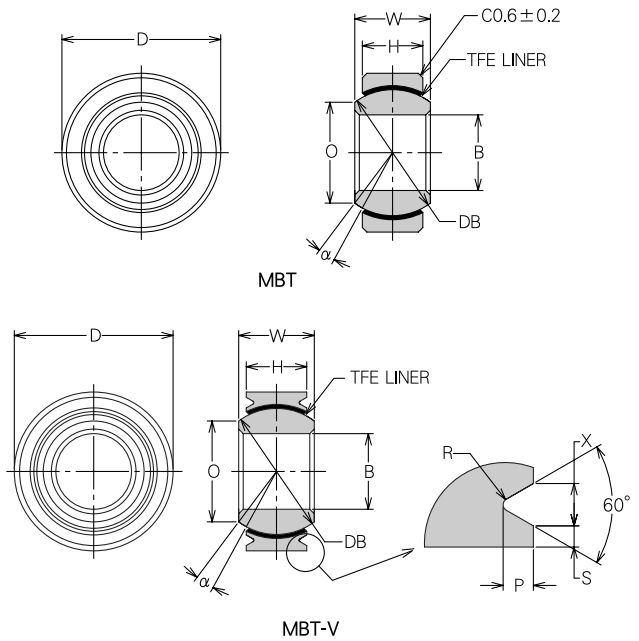
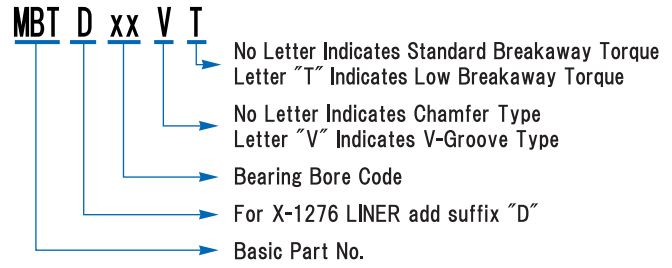
# MBT, MBT-V

**SPHERICAL SELF-LUBRICATING NARROW**

**Materials**

RACE 410 Stainless Steel / Heat Treated  
 BALL 440C Stainless Steel / Heat Treated  
 LINER Teflon / Fabric

**Description of Types**



Dimensions in mm

MINEBEA Part No.	φB H7	φD 0 - 0.013	W 0 - 0.13	H ± 0.13	α (deg.)	φ O Ref.	S φ DB Ref.	No Load Rotational Breakaway Torque N · m				Staking Groove				Static Limit Load kN		Dynamic Load kN	Approx. Weight g
								Standard				S 0 - 0.25	X 0 - 0.25	R 0 - 0.25	P 0 - 0.4	Radial	Axial		
MBT3/MBT3V	3	10.0	5.0	3.5	15	5.1	7.144	0.12 ~ 0.57 {1.2 ~ 5.8kgf · cm}	0.5	1.0	0.4	0.7	7.84	0.98	3.43	3			
MBT4/MBT4V	4	12.0	6.5	4.5	17	5.8	8.731												
MBT5/MBT5V	5	14.5	7.0	5.5	10	7.6	10.319												
MBT6/MBT6V	6	16.5	8.5	6.5	11	9.4	12.700												
MBT8/MBT8V	8	19.0	9.5	7.0	12	10.7	14.288												
MBT10/MBT10V	10	21.0	10.0	8.0	8	13.3	16.669												
MBT12/MBT12V	12	25.0	13.0	10.0	10	15.0	19.844												
MBT14/MBT14V	14	27.5	14.0	11.0	8	18.3	23.019												
MBT15/MBT15V	15	29.0	15.0	12.0		19.5	24.606												
MBT16/MBT16V	16	30.0	16.0	12.5	10	18.7	22.2										28.575		
MBT18/MBT18V	18	34.0	18.0	14.0	9	23.4												30.162	
MBT20/MBT20V	20	36.0	19.0	15.0	8	25.0	33.338												
MBT22/MBT22V	22	40.0	22.0	18.0		9	28.8										38.100		
MBT25/MBT25V	25	45.0	25.0	20.0	9	34.0	44.053												
MBT28/MBT28V	28	50.0	28.0	22.0		0.23 ~ 0.90 {2.3 ~ 9.2kgf · cm}	2.0	0.5	1.5	74.53	8.33	33.34	32						
MBT30/MBT30V	30	56.0	30.0	23.0										10	37.0	47.625			

**Notes**

- Teflon liner permanently bonded to race I.D.
  - MBT & MBT-V weights are similar.
  - Made to order only.
  - No Load Rotational Breakaway Torque.  
 Low Torque All Size: 0.02N · m MAX  
 (Radial Clearance 0.05mm MAX)
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

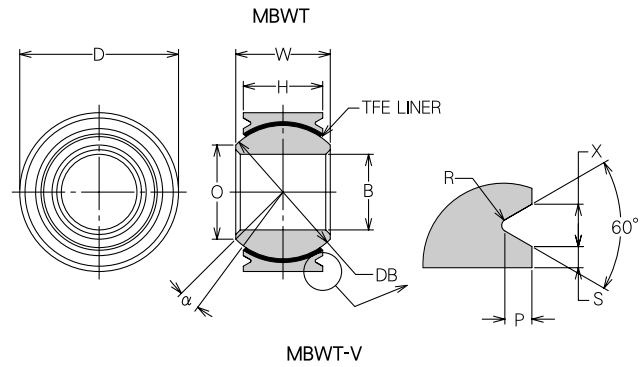
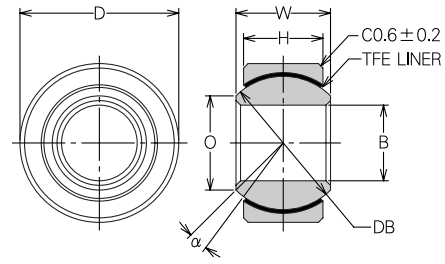
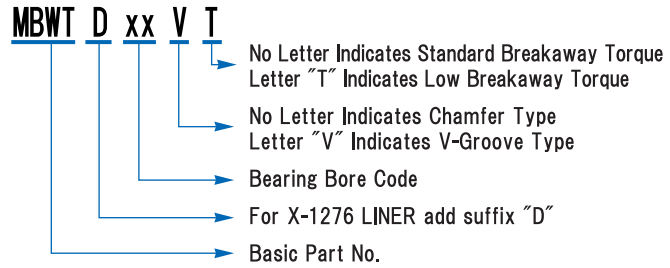
# MBWT, MBWT-V

**SPHERICAL | SELF-LUBRICATING | WIDE**

**Materials**

- RACE 410 Stainless Steel / Heat Treated
- BALL 440C Stainless Steel / Heat Treated
- LINER Teflon / Fabric

**Description of Types**



Dimensions in mm

MINEBEA Part No.	φ B H7	φ D 0 - 0.013	W 0 - 0.13	H ± 0.13	α (deg)	φ O Ref.	S φ DB Ref.	No Load Rotational Breakaway Torque N · m	Staking Groove				Static Limit Load kN		Dynamic Load kN	Approx. Weight g		
									S 0 - 0.25	X 0 - 0.25	R 0 - 0.25	P 0 - 0.4	Radial	Axial				
MBWT5/MBWT5V	5	16.0	11.0	8.5	15	7.8	13.494	0.06 ~ 0.57 {0.6 ~ 5.8kgf · cm}	0.5	1.0	0.4	0.7	43.14	5.98	18.63	14		
MBWT6/MBWT6V	6			8.0	14	10.9	15.478						46.09	5.29			20.59	14
MBWT8/MBWT8V	8			17.5	8.0	14	10.9						15.478	46.09			5.29	20.59
MBWT10/MBWT10V	10	21.0	12.5	10.5	8	12.2	17.462	0.12 ~ 0.57 {1.2 ~ 5.8kgf · cm}	0.7	1.4	1.0	68.64	9.21	30.40	23			
MBWT12/MBWT12V	12	26.0	16.0	13.0	10	15.4	22.225					116.69	21.57			51.97	46	
MBWT14/MBWT14V	14	28.0	17.0	14.0	8	18.9	25.400					143.17	25.49			63.74	55	
MBWT15/MBWT15V	15	29.0	18.0	11	19.0	26.194	0.23 ~ 0.90 {2.3 ~ 9.2kgf · cm}	0.7	2.0	1.5	1.5	148.08	65.70	59				
MBWT16/MBWT16V	16	30.0	19.0	15.0	10	19.2						26.988	163.77		29.41	73.54	65	
MBWT18/MBWT18V	18	33.0	20.0	16.0	13	22.9						31.750	184.36		33.34	82.37	80	
MBWT20/MBWT20V	20	35.0	22.0	13	22.9	31.750	0.33 ~ 1.70 {3.4 ~ 17.3kgf · cm}	0.7	2.0	1.5	1.5	204.95	92.18	91				
MBWT22/MBWT22V	22	41.0		19.0	6	27.1						34.925	268.70		47.07	120.62	150	
MBWT25/MBWT25V	25	54.0		25.0	15	32.3						47.625	483.46		82.37	216.72	400	
MBWT28/MBWT28V	28	60.0	37.0	14	40.4	54.769	0.33 ~ 1.70 {3.4 ~ 17.3kgf · cm}	0.7	2.0	1.5	1.5	515.82	231.43	490				
MBWT30/MBWT30V	30	64.0		26.0	9	44.7						58.000	578.59		89.24	258.89	590	
MBWT35/MBWT35V	35	65.0		29.0	9	44.7						58.000	682.54		109.83	303.02	590	
MBWT40/MBWT40V	40	68.0	38.0	31.0	8	46.9	60.325	0.33 ~ 1.70 {3.4 ~ 17.3kgf · cm}	0.7	2.0	1.5	759.03	125.52	337.34	615			
MBWT45/MBWT45V	45	76.0	41.0	33.0	8	54.1	67.866					909.07	142.19			404.03	825	
MBWT50/MBWT50V	50	82.0	44.0	35.0	8	60.3	74.612					1059.11	156.90			470.71	995	

**Notes**

- Teflon liner permanently bonded to race I.D.
  - MBWT & MBWT-V weights are similar.
  - Made to order only.
  - No Load Rotational Breakaway Torque.  
Low Torque All Size: 0.02N · m MAX  
(Radial Clearance 0.05mm MAX)
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30	~ 50
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0

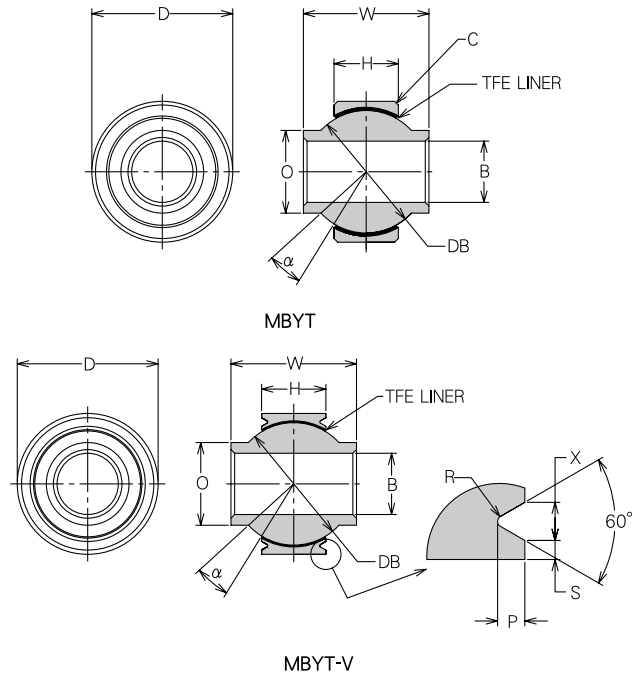
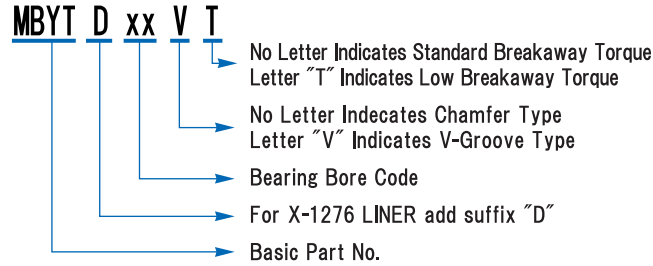
# MBYT, MBYT-V

**SPHERICAL**    **SELF-LUBRICATING**    **HIGH MISALIGNMENT**

**Materials**

RACE    410 Stainless Steel / Heat Treated  
 BALL    440C Stainless Steel / Heat Treated  
 LINER    Teflon / Fabric

**Description of Types**



Dimensions in mm

MINEBEA Part No.	φB H7	φD 0 -0.013	W 0 -0.13	H ± 0.13	α (deg.)	φO Ref.	S φDB Ref.	No Load Rotational Breakaway Torque N · m	Chamfer	Staking Groove				Static Limit Load kN		Dynamic Load kN	Approx. Weight g
										S 0 -0.25	X 0 -0.25	R 0 -0.25	P 0 -0.4	Radial	Axial		
MBYT5/MBYT5V	5	14	12.5	5.0	17	8.0	11.1	0.06 ~ 0.57 {0.6 ~ 5.8kgf · cm}	0.5	0.5	1.0	0.4	0.7	18.63	1.96	7.84	8
MBYT6/MBYT6V	6	19	15.0	6.5	23	10.0	15.1							36.26	3.43	14.70	18
MBYT8/MBYT8V	8	18	16.0	8.5	22	13.5	20.0	0.12 ~ 0.57 {1.2 ~ 5.8kgf · cm}	0.6	0.7	1.4	0.5	1.0	63.70	5.97	28.42	32
MBYT10/MBYT10V	10	23	20.5											72.03		32.34	42
MBYT12/MBYT12V	12	26	22.0	98.00	8.33	44.10	60										
MBYT14/MBYT14V	14	29	23.5	10.0	20	19.0	26.0							135.24	18.62	60.76	86
MBYT15/MBYT15V	15	33	26.0	12.0	19	20.0	28.0							179.34	25.48	80.36	120
MBYT16/MBYT16V	16	35	30.5	14.0	21	21.5	31.8							187.18	27.44	83.30	135
MBYT18/MBYT18V	18	38	33.0	14.5	15	23.5	32.0							219.52	31.36	98.00	155
MBYT20/MBYT20V	20	40	35.5	15.5	18	25.0	35.0							243.04		108.78	200
MBYT22/MBYT22V	22	44				29.0	38.8							0.23 ~ 0.90 {2.3 ~ 9.2kgf · cm}	1.0	2.0	1.5

**Notes**

- Teflon liner permanently bonded to race I.D.
  - MBYT & MBYT-V weights are similar.
  - Made to order only.
  - No Load Rotational Breakaway Torque.  
 Low Torque All Size: 0.02N · m MAX  
 (Radial Clearance 0.05mm MAX)
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

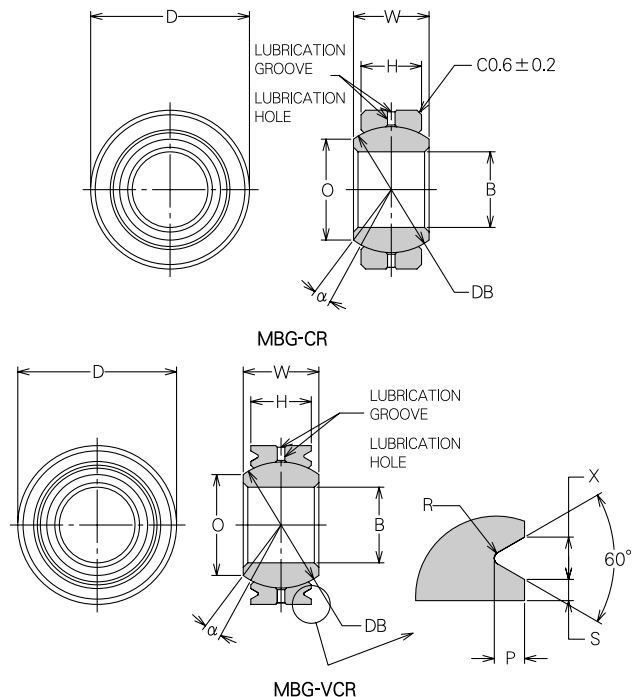
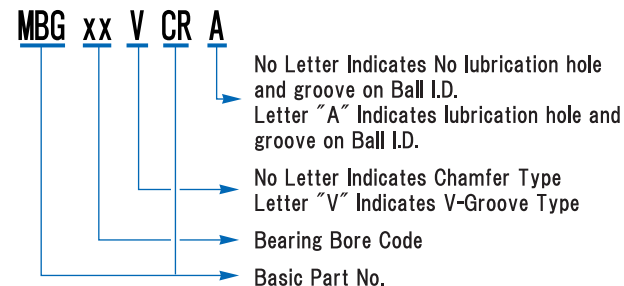
# MBG-CR, MBG-VCR

**SPHERICAL METAL TO METAL STANDARD**

**Materials**

RACE 410 Stainless Steel  
 BALL 440C Stainless Steel

**Description of Types**



Dimensions in mm

MINEBEA Part No.	φB H7	φD 0 - 0.013	W 0 - 0.13	H ± 0.13	α (deg.)	φO Ref.	S φDB Ref.	Staking Groove				Static Limit Load kN		Approx. Weight g
								S 0 - 0.25	X 0 - 0.25	R 0 - 0.25	P 0 - 0.4	Radial	Axial	
MBG3CR/MBG3VCR	3	10.0	5.0	3.5	15	5.1	7.144	0.5	1.0	0.4	0.7	6.17	1.76	3
MBG4CR/MBG4VCR	4	12.0	6.5	4.5	17	5.8	8.731					12.16	2.94	4
MBG5CR/MBG5VCR	5	14.5	7.0	5.5	10	7.6	10.319	0.7	1.4	0.5	1.0	19.90	4.41	7
MBG6CR/MBG6VCR	6	16.5	8.5	6.5	11	9.4	12.700					31.08	6.27	11
MBG8CR/MBG8VCR	8	19.0	9.5	7.0	12	10.7	14.288	0.7	2.0	0.5	1.5	35.30	7.25	14
MBG10CR/MBG10VCR	10	21.0	10.0	8.0	8	13.3	16.669					49.81	9.51	19
MBG12CR/MBG12VCR	12	25.0	13.0	10.0	10	15.0	19.844	0.7	2.0	0.5	1.5	79.43	14.80	32
MBG14CR/MBG14VCR	14	27.5	14.0	11.0	8	18.3	23.019					103.95	28.34	42
MBG15CR/MBG15VCR	15	29.0	15.0	12.0	9	19.5	24.606	0.7	2.0	0.5	1.5	118.66	33.73	50
MBG16CR/MBG16VCR	16	30.0	16.0	12.5		10	18.7					24.606	124.54	36.67
MBG18CR/MBG18VCR	18	34.0	18.0	14.0	9	22.2	28.575	0.7	2.0	0.5	1.5	166.71	45.99	78
MBG20CR/MBG20VCR	20	36.0	19.0	15.0		9	23.4					30.162	192.21	52.75
MBG22CR/MBG22VCR	22	40.0	22.0	18.0	8	25.0	33.338	0.7	2.0	0.5	1.5	263.79	76.00	130
MBG25CR/MBG25VCR	25	45.0	25.0	20.0	9	28.8	38.100					340.29	93.84	185
MBG28CR/MBG28VCR	28	50.0	28.0	22.0		10	34.0	44.053	0.7	2.0	0.5	1.5	439.33	112.77
MBG30CR/MBG30VCR	30	56.0	30.0	23.0	10		37.0	47.625					500.13	123.56

**Notes**

1. MBG - CR & MBG - VCR weights are similar.
  2. Made to order only.
  3. Radial Clearance All Size: 0.051mm MAX
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

# MBW-CR, MBW-VCR

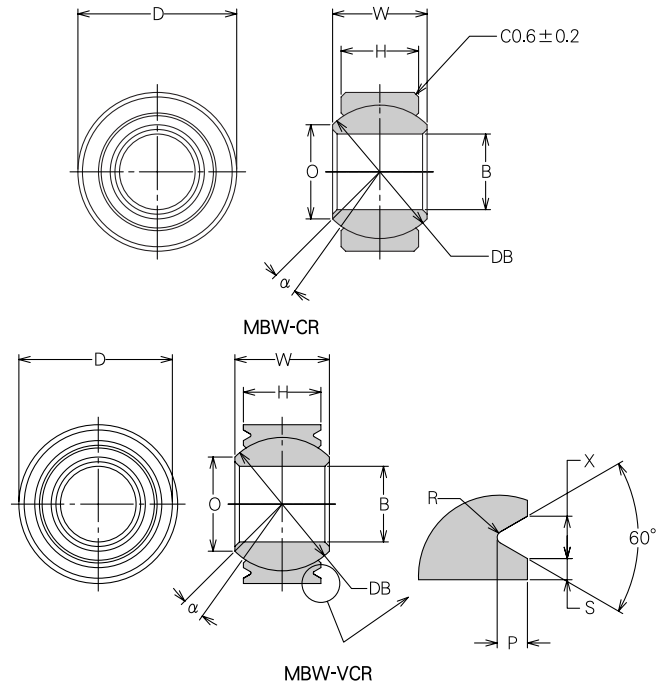
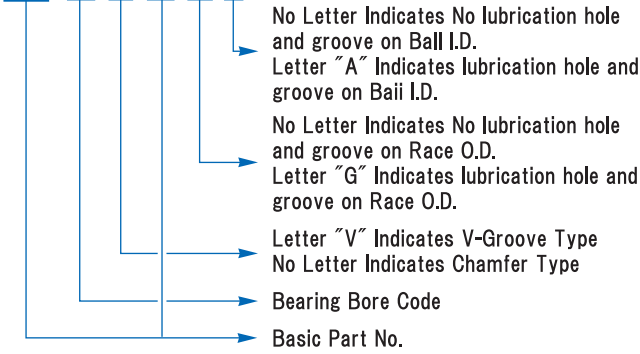
**SPHERICAL METAL TO METAL WIDE**

**Materials**

RACE 410 Stainless Steel  
 BALL 440C Stainless Steel

**Description of Types**

**MBW xx V CR G A**



Dimensions in mm

MINEBEA Part No.	φB H7	φD 0 -0.013	W 0 -0.13	H ± 0.13	α (deg.)	φO Ref.	S φDB Ref.	Staking Groove				Static Limit Load kN		Approx. Weight g
								S 0 -0.25	X 0 -0.25	R 0 -0.25	P 0 -0.4	Radial	Axial	
MBW5CR/MBW5VCR	5	16.0	11.0	8.5	15	7.8	13.494	0.5	1.0	0.4	0.7	59.03	10.68	14
MBW6CR/MBW6VCR	6			8.0	14	10.9	15.478					63.74	9.51	13
MBW8CR/MBW8VCR	8			17.5	10.5	8	12.2					17.462	94.43	16.37
MBW10CR/MBW10VCR	10	21.0	12.5	10.5	8	12.2	17.462	0.7	1.4	1.0	1.0	148.08	39.61	46
MBW12CR/MBW12VCR	12	26.0	16.0	13.0	10	15.4	22.225					182.40	45.99	55
MBW14CR/MBW14VCR	14	28.0	17.0	14.0	8	18.9	25.400					188.28	45.99	59
MBW15CR/MBW15VCR	15	29.0	18.0	14.0	11	19.0	26.194	0.7	2.0	0.5	1.5	207.90	52.75	65
MBW16CR/MBW16VCR	16	30.0	19.0	15.0	10	19.2	26.988					235.35	60.11	80
MBW18CR/MBW18VCR	18	33.0	20.0	16.0	13	22.9	31.750					260.85	60.11	91
MBW20CR/MBW20VCR	20	35.0	22.0	19.0	6	27.1	34.925	0.7	2.0	0.5	1.5	341.27	84.72	150
MBW22CR/MBW22VCR	22	41.0		15	32.3	47.625	612.91					146.11	400	
MBW25CR/MBW25VCR	25	54.0		15	32.3	47.625	612.91					146.11	490	
MBW28CR/MBW28VCR	28	60.0	35.0	25.0	14	36.8	50.800	0.7	2.0	0.5	1.5	654.10	146.11	490
MBW30CR/MBW30VCR	30	64.0				37.0	26.0					40.4	54.769	733.53

**Notes**

1. MBW - CR & MBW - VCR weights are similar.
  2. Made to order only.
  - (3) For below 4mm in Bore size, bearings are without lubrication grooves.
  4. Radial Clearance All Size: 0.051mm MAX
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

# MBY-CR, MBY-VCR

**SPHERICAL METAL TO METAL HIGH MISALIGNMENT**

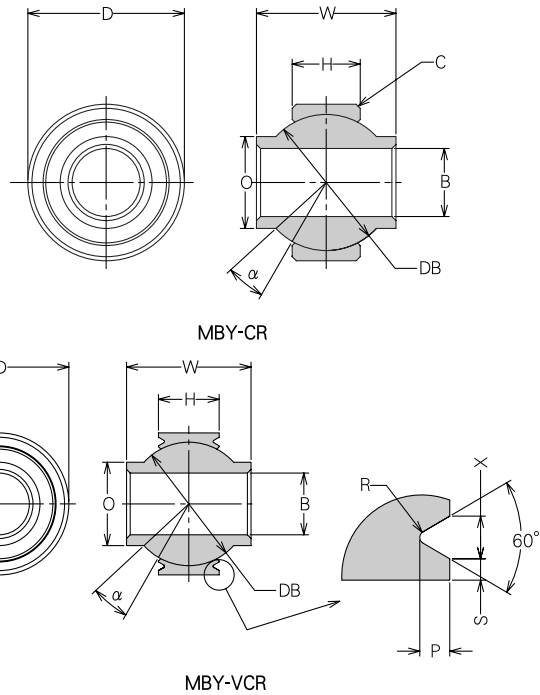
**Materials**

RACE 410 Stainless Steel  
 BALL 440C Stainless Steel

**Description of Types**

**MBY xx V CR G A**

No Letter Indicates no lubrication hole and groove on Ball I.D.  
 Letter "A" Indicates lubrication hole and groove on Ball I.D.  
 No Letter Indicates nooooo lubrication hole and groove on Race O.D.  
 Letter "G" Indicates lubrication hole and groove on Race O.D.  
 No Letter Indicates Chamfer Type  
 Letter "V" Indicates V-Groove Type  
 Bearing Bore Code  
 Basic Part No.



Dimensions in mm

MINEBEA Part No.	φB H7	φD 0 - 0.013	W 0 - 0.13	H ± 0.13	α (deg)	φO Ref.	SφDB Ref.	Chamfer C ± 0.2	Staking Groove				Static Limit Load kN		Approx. Weight g
									S 0 - 0.25	X 0 - 0.25	R 0 - 0.25	P 0 - 0.4	Radial	Axial	
MBY3CR	3	10.0	8.0	3.0	29	5.0	8.00	0.3	0.5	1.0	0.4	0.7	11.76	1.27	3
MBY4CR	4	12.0	10.5	4.0		6.0	10.00						20.49	2.35	5
MBY5CR/MBY5VCR	5	14.0	12.5	5.0	17	8.0	11.10	0.5	0.5	1.0	0.4	0.7	28.43	3.62	8
MBY6CR/MBY6VCR	6	19.0	15.0	6.5	23	10.0	15.10						50.50	6.27	18
MBY8CR/MBY8VCR	8	18.0	16.0		20	10.5		0.6	0.7	1.4	0.5	1.0	87.57	10.68	32
MBY10CR/MBY10VCR	10	23.0	20.5	8.5	22	13.5	20.00						98.06	42	42
MBY12CR/MBY12VCR	12	26.0	22.0		20	19.0	26.00	0.6	0.7	1.4	0.5	1.0	133.37	14.80	60
MBY14CR/MBY14VCR	14	29.0	23.5	10.0	20	19.0	26.00						172.59	33.73	86
MBY15CR/MBY15VCR	15	33.0	26.0	12.0	19	20.0	28.00	0.8	0.7	1.4	0.5	1.0	228.49	45.99	120
MBY16CR/MBY16VCR	16	35.0	30.5	14.0	21	21.5	31.80						238.30	49.32	135
MBY18CR/MBY18VCR	18	38.0	33.0	14.5	15	23.5	32.00	1.0	0.7	1.4	0.5	1.5	279.48	56.38	155
MBY20CR/MBY20VCR	20	40.0	35.5	15.5	18	25.0	35.00						308.90		200
MBY22CR/MBY22VCR	22	44.0				29.0	38.80								

**Notes**

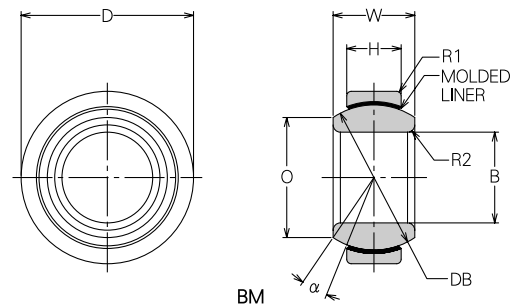
1. MBY - CR & MBY - VCR weights are similar.
  2. Made to order only.
  - (3) For below 4mm in Bore size, bearings are without lubrication grooves.
  4. Radial Clearance All Size: 0.051mm MAX
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

**SPHERICAL MOLD TYPE MINELON®**

**Materials**

**RACE** Bearing Steel / Heat Treated / Black Oxide Treated  
**BALL** Bearing Steel / Heat Treated / Chrome Plated  
**MOULDED LINER** Minelon®



Dimensions in mm

MINEBEA Part No.	φB	φD	W 0 -0.12	H 0 -0.24	φO Ref.	R1 ± 0.2	R2 ± 0.2	α (deg.)	SφDB Ref.	No Load Rotational Breakaway Torque N · m	Radial Clearance mm	Radial Static Limit Load kN	Axial Static Limit Load kN	Dynamic Load kN	Approx. Weight g
BM10	10	19	9	6	13.1	0.5	0.8	12	16.0	0	0.03MAX	22.55	8.38	0.50	10
BM12	12	22	10	7	15.3	0.8		10	18.0	0.03MAX {0.35kgf · cmMAX}		30.89	11.47	0.72	15
BM15	15	26	12	9	18.7	1.0		8	22.0	0.06MAX {0.58kgf · cmMAX}	0.05MAX	46.77	17.35	1.15	25
BM17	17	30	14	10	21.2	1.0	10	25.0	59.03			21.86	1.36	40	
BM20	20	35	16	12	23.7	1.0	9	29.0	72.47			26.87	1.58	62	
BM25	25	42	20	16	29.3	1.0	7	35.5	0.11MAX {1.15kgf · cmMAX}	103.26	38.24	1.93	102		

**Notes**

- ① Operating temperature range: - 50 °C ~ + 100 °C
- ② Dynamic Load Ratings: Cd
  - 1. Reversing & Alternating Load  
Dynamic Load Ratings shall be reduced by half from the values given in the table under the use of reversing and alternating load condition.
  - 2. Factor of Operating Temperature and Sliding Speed  
Dynamic Load Ratings shall be determined by formula below under the use of High-Temperature and Sliding-Speed condition.  
 $Cdt \cdot v = ft \cdot fv \cdot Cd$   
 Cdt · v: Dynamic Load Ratings under the use of High-Temperature and Sliding speed.  
 ft: Coefficient of Temperature  
 fv: Coefficient of Sliding speed

- ③ Static Load Ratings: Cs
  - 1. Dynamic Load Ratings shall be reduced to one-thirds of the values given in the table under the use of that High-Load will be applied continuously or periodically and be reduced to one-sixth of the values given under Reversing and Alternating Load and Impact Load conditions.
  - 2. Factor of Operating Temperature  
Dynamic Load Ratings shall be determined by formula below under the use of High-Temperature conditions.  
 $Cs \cdot t = ft \cdot Cs$   
 Cs · t: Dynamic Load Ratings under the use of High-Temperature condition.  
 ft: Coefficient of Temperature  
 Cs: Static Load given in the table

Table 1

Temp. °C	~ 40	~ 60	~ 80	~ 100
ft	1.0	0.95	0.8	0.6

Table 3

Temp. °C	~ 30	~ 40	~ 60	~ 80	~ 90	~ 100
ft	1.0	0.95	0.85	0.6	0.5	0.3

Table 2

Sliding Speed m/min	~ 0.3	~ 0.4	~ 0.5	~ 0.6	~ 0.7	~ 0.8	~ 0.9	~ 1.1	~ 1.5	~ 2.5
fv	1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1

- ④ Thrust Load: Pt  
Please use thrust load in the range, which does not exceed the thrust load (Table 1 application under temperature environment) from catalogue, and "1/3 of Actual radial Load."
- Please consult MINEBEA for availability of bearings in this series.

**Tolerances**

Measure range		Ball permitted tolerances				Race permitted tolerances				permitted tolerances of Ball width		permitted tolerances of Race width	
		Bm		B		Dm		D		W		H	
Over	Under	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
—	10	0	- 0.008	+ 0.002	- 0.010	—	—	—	—	0	- 0.120	0	- 0.240
10	18	0	- 0.008	+ 0.003	- 0.011	—	—	—	—	0	- 0.120	0	- 0.240
18	30	0	- 0.010	+ 0.003	- 0.013	0	- 0.009	+ 0.005	- 0.014	0	- 0.120	0	- 0.240
30	50	0	- 0.012	+ 0.003	- 0.015	0	- 0.011	+ 0.008	- 0.019	0	- 0.120	0	- 0.240

Bm & Dm indicate averages of I.D. & O.D..