

**> SELECTION CHART:**

1. Items with page numbers are in this catalog.  
For items with shaded background, please consult our other SDP/SI catalogs or our Web site: [www.sdp-si.com](http://www.sdp-si.com)
2. The part numbers with the “-” in the 7th character denotes inch size bore and “M” in the 7th character signify metric size bore.



Type	Bearing Material			
	Sintered Bronze	PTFE Bronze	Acetal	Needle Roller Bearing
Press-Fit Self-Aligning	A 7Z41-		A 7Z44-	A 7Z47-
	A 7Z41M (pg. 5-54)		A 7Z44M (pg. 5-55)	A 7Z47M (pg. 5-65)
Press-Fit Self-Clinching Self-Aligning	A 7Z40-	A 7Z60-	A 7Z43-	A 7Z46-
	A 7Z40M (pg. 5-48)	A 7Z60M (pg. 5-49)	A 7Z43M (pg. 5-52)	A 7Z46M (pg. 5-66)
Press-Fit Self-Clinching Nonaligning		A 7Z61-		A 7Z48-
		A 7Z61M (pg. 5-50)		A 7Z48M (pg. 5-66)
Flange-Mounted Self-Aligning	A 7Z42-	A 7Z62-	A 7Z45-	A 7Z56-
	A 7Z42M (pg. 5-56)	A 7Z62M (pg. 5-57)	A 7Z45M (pg. 5-59)	A 7Z56M (pg. 5-68)
Flange-Mounted Nonaligning		A 7Z63-		A 7Z57-
		A 7Z63M (pg. 5-58)		A 7Z57M (pg. 5-69)
Pillow Block-Mounted Self-Aligning	A 7Z31-	A 7Z32-		A 7Z33-
	A 7Z31M (pg. 5-80)	A 7Z32M (pg. 5-81)		A 7Z33M (pg. 5-79)

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# SELF-CLINCHING SINTERED BRONZE PRESSBEARINGS

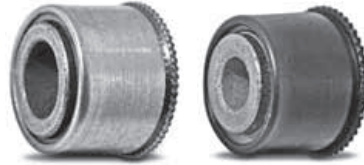
# SDP/SI

SELF-ALIGNING TO  $\pm 5^\circ$   
 SELF-LUBRICATING

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**> MATERIAL:**

**Bearing** - Oil-Impregnated Sintered Bronze  
**Retainer** - Carbon Steel, Black Oxide Finish  
 or 300 Series Stainless Steel

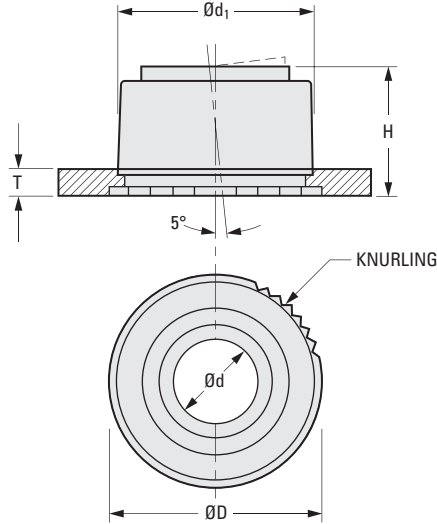


**> OPERATING TEMPERATURE:**

-29°C to +93°C

**> SHAFT REQUIREMENTS:**

Any material, HRC 95 min.,  
 with a 0.4  $\mu\text{m}$  or finer finish.



The projections shown are per ISO convention.

### METRIC COMPONENT

Catalog Number *	d Nom. I.D.	Actual I.D. +0.02 0	d <sub>1</sub> Panel Hole Dia. +0.07 0	T Min. Panel Thickness	D Knurl O.D.	H Height
A 7Z40MF <input type="checkbox"/> B04M	4	4.01	12.7	1	14	10.2
A 7Z40MF <input type="checkbox"/> B06M	6	6.02	12.7	1	14	10.2
A 7Z40MF <input type="checkbox"/> B08M	8	8.02	15.9	1.5	17	11.5
A 7Z40MF <input type="checkbox"/> B10M	10	10.02	15.9	1.5	17	11.5
A 7Z40MF <input type="checkbox"/> B12M	12	12.03	20.6	1.5	22	16.3
A 7Z40MF <input type="checkbox"/> B15M	15	15.03	27	2	28	19.4
A 7Z40MF <input type="checkbox"/> B18M	18	18.03	31.8	2.3	33	22.5

Catalog Number (Ref.)	Max. Speed rpm	Max. Radial Load N	
		Carbon Steel	Stainless Steel
A 7Z40MF <input type="checkbox"/> B04M	24170	800	800
A 7Z40MF <input type="checkbox"/> B06M	16110	1530	890
A 7Z40MF <input type="checkbox"/> B08M	12120	1850	1150
A 7Z40MF <input type="checkbox"/> B10M	9700	1850	1150
A 7Z40MF <input type="checkbox"/> B12M	8060	2550	1480
A 7Z40MF <input type="checkbox"/> B15M	6460	7000	4030
A 7Z40MF <input type="checkbox"/> B18M	5380	8500	4880

\* To complete the Catalog Number, specify:

for a **Carbon Steel Retainer**  
 or  for a **Stainless Steel Retainer**.

See page 5-51 for installation data

Example: For a Stainless Steel retainer, specify Catalog Number A 7Z40MFXB08M.

# SELF-CLINCHING PTFE BRONZE PRESSBEARINGS

# SDP/SI

SELF-ALIGNING TO  $\pm 5^\circ$   
 SELF-LUBRICATING  
 EXTREME TEMPERATURE RANGE  
 IDEAL FOR ALL TYPES OF ROTATING, OSCILLATING  
 AND SLIDING MOTIONS

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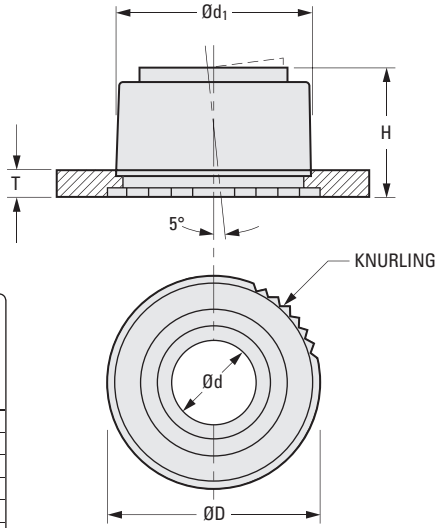


**> MATERIAL:**  
**Bearing** - PTFE-Impregnated Porous Bronze  
**Retainer** - Carbon Steel, Black Oxide Finish

**> OPERATING TEMPERATURE:**  
 -201°C to +195°C

**> FEATURES:**  
 Knurling ensures secure self-clinching  
 Simple quick installation.  
 Major assembly and production savings  
 Mounting blocks not necessary.

**> SHAFT REQUIREMENTS:**  
 Any material, soft or hard, with a  
 0.4  $\mu\text{m}$  or finer finish.



**SHAFT DIAMETERS**

Nominal Shaft Diameter	Maximum Diameter	Minimum Diameter
4	4.000	3.992
6	5.990	5.978
8	7.987	7.972
10	9.987	9.972
12	11.984	11.966
16	15.984	15.966
18	17.984	17.966

The projections shown are per ISO convention.

**METRIC COMPONENT**

Catalog Number	d Nom. I.D.	d <sub>1</sub> Panel Hole Dia. +0.07 0	T Min. Panel Thickness	D Knurl O.D.	H Height	Max. Speed rpm	Max. Radial Load N
A 7Z60MFSDU04	4	12.7	1	14	10.2	9540	1530
A 7Z60MFSDU06	6	15.9	1.5	17	11.5	6360	1780
A 7Z60MFSDU08	8	15.9	1.5	17	11.5	4770	1780
A 7Z60MFSDU10	10	20.6	1.5	22	16.3	3820	2550
A 7Z60MFSDU12	12	20.6	1.5	22	15.9	3180	2550
A 7Z60MFSDU16	16	27	2	28	19.5	2390	4800
A 7Z60MFSDU18	18	31.8	2.3	33	22.5	2120	6200

See page 5-51 for installation data

# SELF-CLINCHING PTFE BRONZE PRESSBEARINGS

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NONALIGNING  
 SELF-LUBRICATING  
 EXTREME TEMPERATURE RANGE  
 IDEAL FOR ALL TYPES OF ROTATING, OSCILLATING  
 AND SLIDING MOTIONS



**> MATERIAL:**

**Bearing** - PTFE-Impregnated Porous Bronze  
**Retainer** - Carbon Steel, Black Oxide Finish

**> OPERATING TEMPERATURE:**

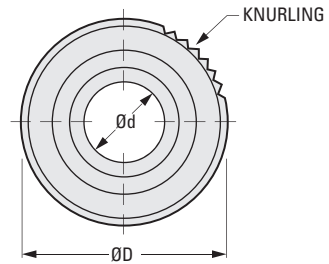
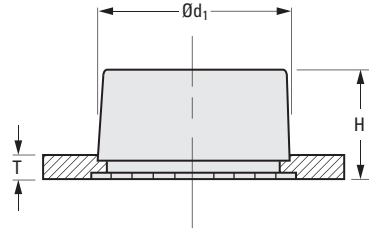
-201°C to +195°C

**> FEATURES:**

Knurling ensures secure self-clinching  
 Simple quick installation.  
 Major assembly and production savings  
 Mounting blocks not necessary.

**> SHAFT REQUIREMENTS:**

Any material, soft or hard, with a  
 0.4 µm or finer finish.



The projections shown are per ISO convention.

**SHAFT DIAMETERS**

Nominal Shaft Diameter	Maximum Diameter	Minimum Diameter
4	4.000	3.992
6	5.990	5.978
8	7.987	7.972
10	9.987	9.972
12	11.984	11.966
16	15.984	15.966
18	17.984	17.966

**METRIC COMPONENT**

Catalog Number	d Nom. I.D.	d <sub>1</sub> Panel Hole Dia. +0.07 0	T Min. Panel Thickness	D Knurl O.D.	H Height	Max. Speed rpm	Max. Radial Load
A 7Z61MFSDU04	4	9.5	1	10.5	6.7	9540	1530
A 7Z61MFSDU06	6	12.7	1	14	8.7	6360	1780
A 7Z61MFSDU08	8	15.9	1.5	17	10.7	4770	1780
A 7Z61MFSDU10	10	15.9	1.5	17	12.9	3820	2550
A 7Z61MFSDU12	12	20.6	1.5	22	12.9	3180	2550
A 7Z61MFSDU16	16	22.2	1.5	23	14.9	2390	4800
A 7Z61MFSDU18	18	27	2	28	17.9	2120	4800

See next page for installation data

FOR SINTERED BRONZE PRESSBEARINGS  
 FOR PTFE BRONZE PRESSBEARINGS  
 SELF-CLINCHING  
 SELF-LUBRICATING

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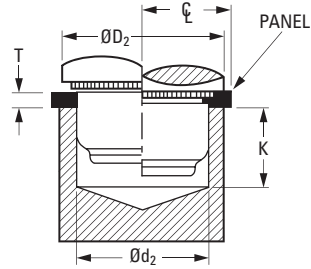
### > INSTALLATION:

1. Punch or drill and ream a hole of diameter  $d_1$  in panel as specified in the table below.  
 Panel hardness HRB 65 max., HRB 75 max.  
 (Stainless Steel retainer).

**DO NOT DEBURR OR BREAK EDGE OF HOLE.**

2. Place bearing assembly in hole. The slight interference fit assures centering the assembly in the mounting hole.
3. Using an anvil with diameter  $d_2$ , a minimum depth of  $K$  and a Press Tool diameter of  $D_2$ , install the bearing assembly into the panel by constantly applying a force of  $F$ , per the table, until the assembly is flush with the panel surface.

**DO NOT USE HAMMER BLOWS!**



### TOOLING AND INSTALLATION DATA - For Sintered Bronze and PTFE Self-Aligning

Nominal Shaft Diameter	$d_1$ Panel Hole Dia. +0.07 0	$d_2$ Anvil Dia. +0.1 0	K Minimum Anvil Depth	$D_2$ Press Tool Minimum Dia.	$C$ Min. Dist. Centerline to Panel Edge	F Install Force Cold-Rolled Steel kN
4	12.7	13.15	15.2	19	9.5	45
6	12.7	13.15	15.2	19	9.5	45
8	15.9	16.35	16.5	22	11.5	49
10	15.9	16.35	16.5	22	11.5	49
12	20.6	21.05	21.3	27	12.7	49
15	27	27.45	24.4	33	19	54
18	31.8	32.25	27.5	38	19	54

### TOOLING AND INSTALLATION DATA - For PTFE Bronze Nonaligning

Nominal Shaft Diameter	$d_1$ Panel Hole Dia. +0.07 0	$d_2$ Anvil Dia. +0.1 0	K Minimum Anvil Depth	$D_2$ Press Tool Minimum Dia.	$C$ Min. Dist. Centerline to Panel Edge	F Install Force Cold-Rolled Steel kN
4	9.5	9.95	11.7	15.5	6.4	18
6	12.7	13.15	13.7	19	9.5	45
8	15.9	16.35	15.7	22	11.5	49
10	15.9	16.35	17.9	22	11.5	49
12	20.6	21.05	17.9	27	12.7	49
16	22.2	22.65	19.9	28	15.9	54
18	27	27.45	22.9	33	19	54

See previous pages for product specifications

# SINTERED BRONZE PRESSBEARINGS



PRESS-FIT INSTALLATION  
 SELF-ALIGNING TO  $\pm 5^\circ$   
 SELF-LUBRICATING

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**> MATERIAL:**

**Bearing** - Oil-Impregnated Sintered Bronze  
**Retainer** - Carbon Steel, Black Oxide Finish

**> OPERATING TEMPERATURE:**

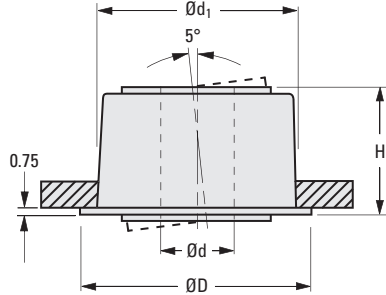
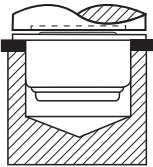
-29°C to +93°C

**> SHAFT REQUIREMENTS:**

Any material, HRB 95 min., with a 0.4  $\mu\text{m}$  or finer finish.

**> INSTALLATION NOTES:**

1. The punch must be relieved to accommodate protruding insert.
2. **DO NOT PRESS BEARING ON INSERT!**



**METRIC COMPONENT**

Catalog Number	d Nom. I.D.	Actual I.D. +0.02 0	d <sub>1</sub> Panel Hole Dia. +0.07 0	D Flange Dia.	H Height	Max. Speed rpm	Max. Radial Load N
A 7Z41MPSB04M	4	4.01	12.7	14.2	9.6	24170	800
A 7Z41MPSB06M	6	6.02	12.7	14.2	9.6	16110	1530
A 7Z41MPSB08M	8	8.02	15.9	17.4	10.8	12120	1850
A 7Z41MPSB10M	10	10.02	15.9	17.4	10.8	9700	1850
A 7Z41MPSB12M	12	12.03	20.6	22.2	15.2	8060	2550
A 7Z41MPSB15M	15	15.03	27	28.5	19.6	6460	7000

PRESS-FIT INSTALLATION  
 SELF-ALIGNING TO  $\pm 5^\circ$   
 SELF-LUBRICATING

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**> MATERIAL:**

**Bearing** - Acetal with PTFE added  
**Retainer** - Carbon Steel, Black Oxide Finish

**> OPERATING TEMPERATURE:**

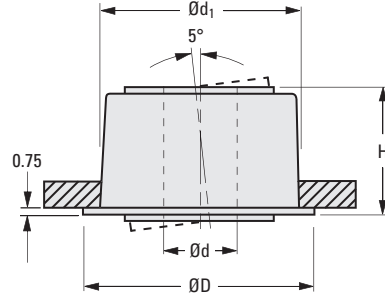
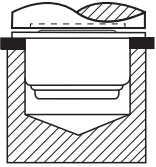
-40°C to +149°C

**> SHAFT REQUIREMENTS:**

Any material, soft or hard, with a 0.4  $\mu\text{m}$  or finer finish.

**> INSTALLATION NOTES:**

1. The punch must be relieved to accommodate protruding insert.
2. **DO NOT PRESS BEARING ON INSERT!**



**METRIC COMPONENT**

Catalog Number	d Nom. I.D.	Actual I.D. +0.05 0	d <sub>1</sub> Panel Hole Dia. +0.07 0	D Flange Dia.	H Height	Max. Speed rpm	Max. Radial Load N
A 7Z44MPSD04MAF	4	4.02	12.7	14.2	9.6	4620	150
A 7Z44MPSD06MAF	6	6.02	12.7	14.2	9.6	3080	270
A 7Z44MPSD08MAF	8	8.03	15.9	17.4	10.8	2300	530
A 7Z44MPSD10MAF	10	10.03	15.9	17.4	10.8	1840	860
A 7Z44MPSD12MAF	12	12.03	20.6	22.2	14.9	1540	1330
A 7Z44MPSD15MAF	15	15.03	27	28.5	19.6	1240	1870



SELF-ALIGNING TO  $\pm 5^\circ$   
 SELF-LUBRICATING  
 FLANGE-MOUNTED

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**> MATERIAL:**

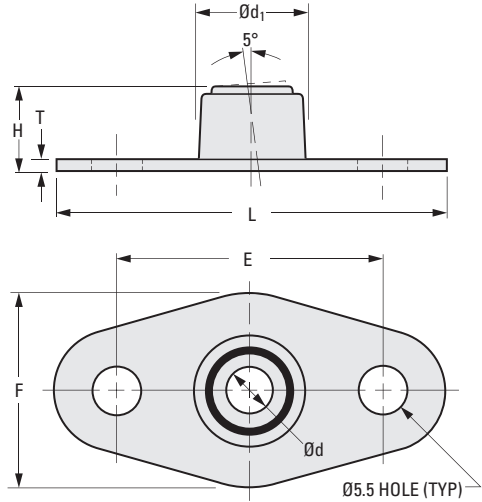
**Bearing** - Oil-Impregnated Sintered Bronze  
**Flange & Retainer** - Carbon Steel, Black Oxide Finish

**> OPERATING TEMPERATURE:**

-29°C to +93°C

**> SHAFT REQUIREMENTS:**

Any material, soft or hard, HRB 95,  
 with a 0.4  $\mu\text{m}$  or finer finish



The projections shown are per ISO convention.

**METRIC COMPONENT**

Catalog Number	d Nom. I.D.	Actual I.D. +0.02 0	d <sub>1</sub> Clearance Hole Dia. (Ref.)	L Overall Length	F Overall Width	E Mtg. Dist.	T Nominal Flange Thickness	H Height	Max. Speed rpm	Max. Radial Load N
*A 7Z42MBFM04MB	4	4.01	13.5	45	22.3	31	1.2	10.2	24170	530
A 7Z42MBFM06MB	6	6.02	13.5	45	22.3	31	1.2	10.2	16110	790
A 7Z42MBFM08MB	8	8.02	17	53	30.2	39	1.5	11.5	12120	1190
A 7Z42MBFM10MB	10	10.02	17	53	30.2	39	1.5	11.5	9700	1490
A 7Z42MBFM12MB	12	12.03	21.5	60	36.5	45.2	1.5	16.3	8060	2530
A 7Z42MBFM15MB	15	15.03	28	60	39.7	45.2	2.3	19.4	6460	3750
A 7Z42MBFM18MB	18	18.03	32.5	60	47	45.2	2.3	22.5	5380	4800
A 7Z42MBFM20MB	20	20.03	32.5	60	47	45.2	2.3	22.5	5200	4800

\* To be discontinued when present stock is depleted.



SELF-ALIGNING  $\pm 5^\circ$   
 SELF-LUBRICATING  
 EXTREME TEMPERATURE RANGE  
 IDEAL FOR ALL TYPES OF ROTATING,  
 OSCILLATING AND SLIDING MOTIONS

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**> MATERIAL:**

**Bearing** - PTFE-Impregnated Porous Bronze  
**Retainer** - Carbon Steel, Black Oxide Finish

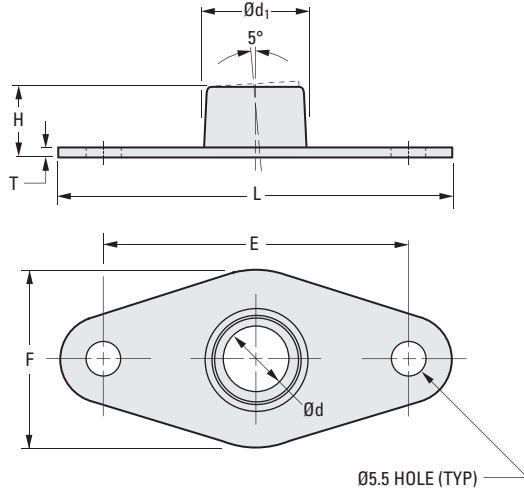
**> OPERATING TEMPERATURE:**

-201°C to +195°C

**> SHAFT REQUIREMENTS:**

Any material, soft or hard,  
 with a 0.4  $\mu\text{m}$  or finer finish.

Nominal Shaft Diameter	Maximum Diameter	Minimum Diameter
4	4.000	3.992
6	5.990	5.978
8	7.987	7.972
10	9.987	9.972
12	11.984	11.966
16	15.984	15.966
18	17.984	17.966



The projections shown are per ISO convention.

**METRIC COMPONENT**

Catalog Number	d Nom. I.D.	d <sub>1</sub> Clearance Hole Dia. (Ref.)	L Overall Length	F Overall Width	E Mounting Distance	T Nominal Flange Thickness	H Height	Max. Speed rpm	Max. Radial Load N
A 7Z62MFDU04	4	13	45	22.2	31	1.2	10.2	23885	3360
A 7Z62MFDU06	6	16.5	53	30.2	39	1.5	11.5	6360	1550
A 7Z62MFDU08	8	16.5	53	30.2	39	1.5	11.5	4770	1550
A 7Z62MFDU10	10	22	60	36.5	45.2	1.5	16.3	3820	2550
A 7Z62MFDU12	12	22	60	36.5	45.2	1.5	15.9	3180	4800
A 7Z62MFDU16	16	28	60	39.7	45.2	2.3	19.5	2390	4800
A 7Z62MFDU18	18	33	60	47	45.2	2.3	22.5	2120	4800

NONALIGNING  
 SELF-LUBRICATING  
 EXTREME TEMPERATURE RANGE  
 IDEAL FOR ALL TYPES OF ROTATING,  
 OSCILLATING AND SLIDING MOTIONS



**> MATERIAL:**

**Bearing** - PTFE-Impregnated Porous Bronze  
**Retainer** - Carbon Steel, Black Oxide Finish

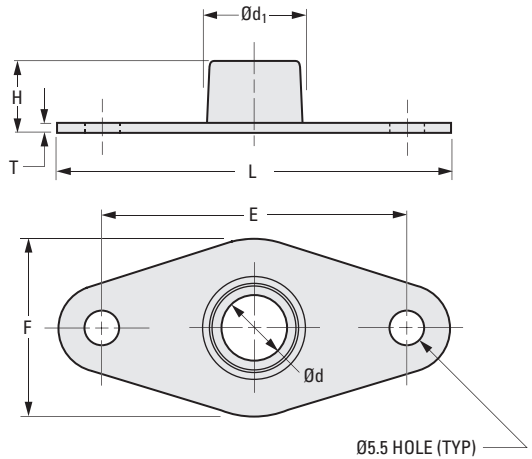
**> OPERATING TEMPERATURE:**

-201°C to +195°C

**> SHAFT REQUIREMENTS:**

Any material, soft or hard,  
 with a 0.4 µm or finer finish.

Nominal Shaft Diameter	Maximum Diameter	Minimum Diameter
4	4.000	3.992
6	5.990	5.978
8	7.987	7.972
10	9.987	9.972
12	11.984	11.966
16	15.984	15.966
18	17.984	17.966



The projections shown are per ISO convention.

**METRIC COMPONENT**

Catalog Number	d Nom. I.D.	d <sub>1</sub> Clearance Hole Dia. (Ref.)	L Overall Length	F Overall Width	E Mounting Distance	T Nominal Flange Thickness	H Height	Max. Speed rpm	Max. Radial Load N
* A 7Z63MFDU04	4	10.3	45	22.2	31	1.2	6.7	23885	3360
A 7Z63MFDU06	6	13	45	22.2	31	1.2	8.7	6360	1550
A 7Z63MFDU08	8	16.5	53	30.2	39	1.5	10.7	4770	1550
A 7Z63MFDU10	10	16.5	53	30.2	39	1.5	12.9	3820	2550
A 7Z63MFDU12	12	22	60	36.5	45	1.5	12.9	3180	4800
A 7Z63MFDU16	16	23	53	32	39	2.3	14.9	2390	4800
A 7Z63MFDU18	18	28	60	39.7	45	2.3	17.9	2120	4800

\* To be discontinued when present stock is depleted.

SELF-ALIGNING TO  $\pm 5^\circ$   
 SELF-LUBRICATING  
 FLANGE-MOUNTED

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**> MATERIAL:**

**Bearing** - Acetal with PTFE added  
**Flange & Retainer** - Carbon Steel,  
 Black Oxide Finish



**> OPERATING TEMPERATURE:**

-40°C to +149°C

**> SHAFT REQUIREMENTS:**

Any material, soft or hard  
 with a 0.4  $\mu\text{m}$  or finer finish.

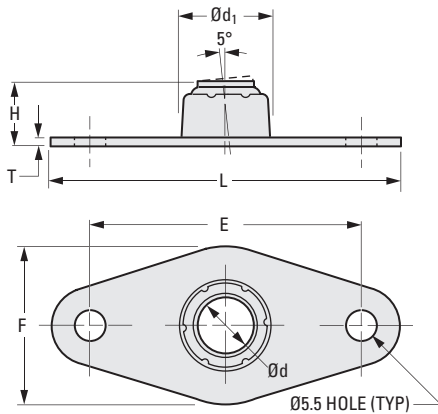


Fig. 1

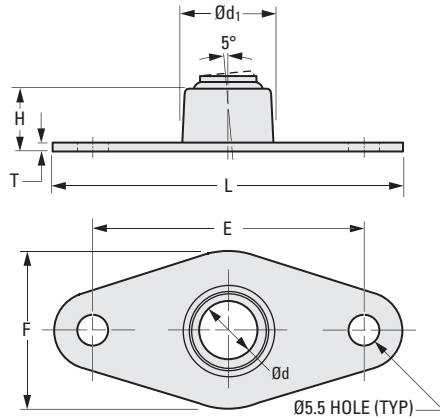


Fig. 2

The projections shown are per ISO convention.

**METRIC COMPONENT**

Catalog Number	d Nom. I.D.	Actual I.D. +0.05 0	d <sub>1</sub> Clearance Hole Dia. (Ref.)	L Overall Length	F Overall Width	E Mtg. Dist.	T Nominal Flange Thickness	H Height	Max. Speed rpm	Max. Radial Load N
<b>Fig. 1</b>										
A 7Z45MBFM06MAF	6	6.02	11	45	22	31	1.2	6.9	3080	270
A 7Z45MBFM08MAF	8	8.03	17	53	30	39	1.6	10	2300	530
<b>Fig. 2</b>										
A 7Z45MBFM10MAF	10	10.03	17	53	30	39	1.6	11.4	1840	860
A 7Z45MBFM12MAF	12	12.03	22	60	36.5	45	1.6	16.5	1540	1330
A 7Z45MBFM15MAF	15	15.03	28	60	39.7	45	2.3	19.4	1240	1870
A 7Z45MBFM18MAF	18	18.03	33	60	47	45.2	2.3	22.4	1030	2600
A 7Z45MBFM20MAF	20	20.03	33	60	47	45.2	2.3	22.4	900	2600

# ROLLER CLUTCHES

**SDP/SI**

FOR 4 mm TO 35 mm HARDENED SHAFTS  
UNIDIRECTIONAL DRIVE

PHONE: 516.328.3300 • FAX: 516.326.8827 • WWW.SDP-SI.COM



**> MATERIAL:**

- Roller Cup** - Case-Hardened Steel
- Needle Bearing** - 52100 Hardened Chrome Steel
- Springs** - Stainless Steel
- Cage** - Nylon 66 (or Equivalent)



**> FEATURES:**

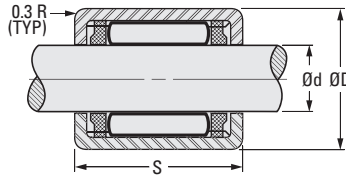
- Ideal for indexing, backstopping or overrunning operations.
- Free rolling one way, drives in opposite direction.
- Lightweight, low profile.
- High indexing frequency, up to 4CPS.
- Operating temperature, grease +10°C to +70°C.
- Minimum backlash.

**> SHAFT REQUIREMENTS:**

Shaft surface hardness must be HRC 58 min.

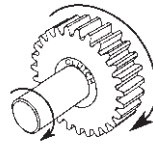
**> HOUSING RECOMMENDATION:**

Recommended tolerances for Housing Bore according to N7 for Steel, R7 for Aluminum.

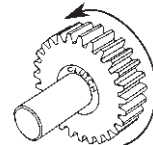


**What It Does...**

Transmits torque load in one direction.  
Overruns freely in opposite direction.  
Either shaft or housing can be driving member.



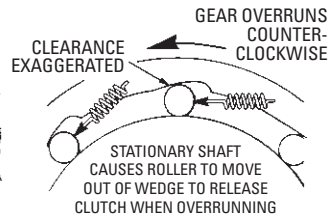
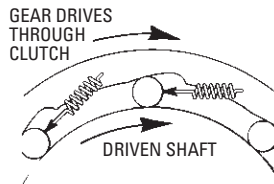
GEAR DRIVES  
SHAFT CLOCKWISE



GEAR OVERRUNS  
SHAFT COUNTERCLOCKWISE

**How It Works...**

Rollers wedge between shaft and outer race. Positive wedging forces prevent slipping. Springs position rollers for instantaneous lockup.



**METRIC COMPONENT**

Catalog Number	d Shaft Dia. h6	D Dia.	S Face Width 0 -0.2	Max. Torque N • m	Rotating Overrun Speed Max. rpm	
					Shaft	Housing
S99NH3MURC0406	4	8	6	0.34	34000	8000
S99NH3MURC0612	6	10	12	1.76	23000	13000
S99NH3MURC0812	8	12	12	3.15	17000	12000
S99NH3MURC1012	10	14	12	5.3	14000	11000
S99NH3MURC1216	12	18	16	12.2	11000	8000
S99NH3MURC1416	14	20	16	17.3	9500	8000
S99NH3MURC1616	16	22	16	20.5	8500	7500
S99NH3MURC1816	18	24	16	24.1	7500	7500
S99NH3MURC2016	20	26	16	28.5	7000	6500
S99NH3MURC2520	25	32	20	66	5500	5500
S99NH3MURC3020	30	37	20	90	4500	4500
S99NH3MURC3520	35	42	20	121	3900	3900

SINTERED BEARING SUPPORT  
UNDIRECTIONAL DRIVE

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**> MATERIAL:**

- Roller Cup** - Case-Hardened Steel
- Needle Bearing** - 52100 Hardened Chrome Steel
- Springs** - Stainless Steel
- Cage** - Plastic
- Bearing Support** - Sintered Bronze Bearings

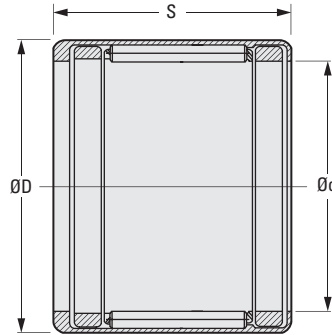


**> SHAFT REQUIREMENTS:**

Shaft surface hardness must be HRC 58 min.

**> HOUSING RECOMMENDATION:**

Recommended tolerances for Housing Bore are N6 for Steel, R6 for Aluminum. Tolerances for Housing Bore of N7 for Steel and R7 for Aluminum can be used if only 50% of the torque is used.



**METRIC COMPONENT**

Catalog Number	d Shaft Dia. h6	D Dia.	S Face Width 0 -0.2	Torque Limit N • m	Max. Speed Limit rpm		Max. Load Limit N	Max. Load Speed Limit N/min.
					Shaft	Housing		
*Δ S99NH4MURC0408	4	8	8	0.34	34000	8000	80	16000
* S99NH4MURC0615	6	10	15	1.76	23000	13000	110	18000

\* During operation of the above items:

F max. = Load Speed Limit (N/min.)

F<sub>R</sub> = Load Limit (N)

n = Speed Limit (housing or shaft) (rpm)

F<sub>R</sub> • n = F max.

Δ Equipped with plastic springs.

Continued on the next page



NEEDLE BEARING SUPPORT  
UNDIRECTIONAL DRIVE

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► **MATERIAL:**

- Roller Cup** - Case-Hardened Steel
- Needle Bearing** - 52100 Hardened Chrome Steel
- Springs** - Stainless Steel
- Cage** - Plastic
- Bearing Support** - Needle Bearings

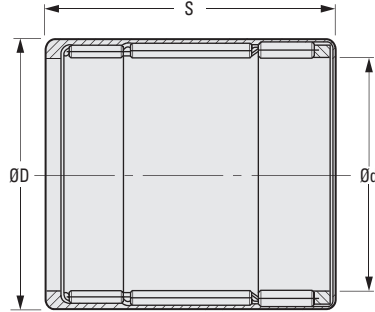


► **SHAFT REQUIREMENTS:**

Shaft surface hardness must be HRC 58 min.

► **HOUSING RECOMMENDATIONS:**

Recommended tolerances for Housing Bore are N6 for Steel, R6 for Aluminum. Tolerances for Housing Bore of N7 for Steel and R7 for Aluminum can be used if only 50% of the torque is used.



**METRIC COMPONENT**

Catalog Number	d Shaft Dia. h6	D Dia.	S Face Width 0 -0.2	Max. Torque N • m	Rotating Overrun Speed Max. rpm		Load Ratings N	
					Shaft	Housing	Dynamic	Static
S99NH4MURC0822	8	12	22	3.15	17000	12000	3500	4100
S99NH4MURC1022	10	14	22	5.3	14000	11000	3750	4650
S99NH4MURC1226	12	18	26	12.2	11000	8000	5800	6700
S99NH4MURC1426	14	20	26	17.3	9500	8000	6300	7800
S99NH4MURC1626	16	22	26	20.5	8500	7500	6900	9000
S99NH4MURC1826	18	24	26	24.1	7500	7500	7400	10200
S99NH4MURC2026	20	26	26	28.5	7000	6500	7900	11400
S99NH4MURC2530	25	32	30	66	5500	5500	9800	14000
S99NH4MURC3030	30	37	30	90	4500	4500	10800	16900
S99NH4MURC3530	35	42	30	121	3900	3900	11400	18800

Continued from the previous page

PRESS-FIT INSTALLATION  
SELF-ALIGNING TO  $\pm 5^\circ$

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**> MATERIAL:**

- Bearing** - Drawn Cup Needle
- Housing** - Carbon Steel, Black Oxide Finish

**> OPERATING TEMPERATURE:**

-30°C to +100°C

**> FEATURES:**

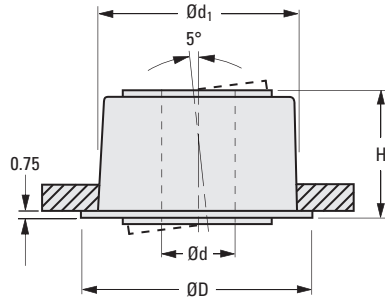
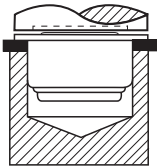
- High-speed, high-load
- No precision holes required
- Major assembly and production savings

**> SHAFT REQUIREMENTS:**

Any material, HRC 58 to 64  
with a 0.4  $\mu\text{m}$  or finer finish.

**> INSTALLATION NOTES:**

- The punch must be relieved to accommodate protruding insert.
- DO NOT PRESS BEARING ON INSERT!**



**SHAFT DIAMETERS**

Nominal Shaft Diameter	Maximum Diameter	Minimum Diameter
4	4.000	3.992
6	6.000	5.992
8	8.000	7.991
10	10.000	9.991
12	12.000	11.989
15	15.000	14.989

**METRIC COMPONENT**

Catalog Number	d Nom. I.D.	d <sub>1</sub> Panel Hole Dia. +0.07 0	D Flange Dia.	H Height	Max. Speed rpm	Max. Radial Load N
A 7Z47MPSN04M	4	15.9	17.4	10.8	41000	1780
A 7Z47MPSN06M	6	15.9	17.4	10.8	35000	1830
A 7Z47MPSN08M	8	20.6	22.2	15.2	28000	1830
A 7Z47MPSN10M	10	20.6	22.2	15.2	23000	2550
A 7Z47MPSN12M	12	27	28.5	19.6	20000	2550
A 7Z47MPSN15M	15	31.8	33.3	21.6	16000	7800



**> MATERIAL:**

**Bearing** - Drawn Cup Needle  
**Housing** - Carbon Steel, Black Oxide Finish

**> OPERATING TEMPERATURE:**

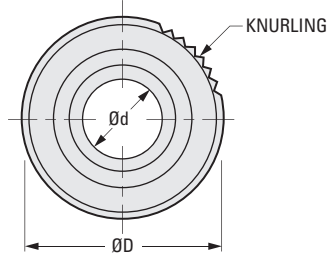
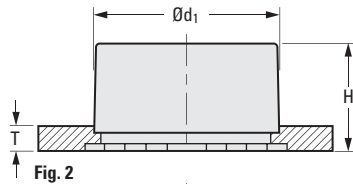
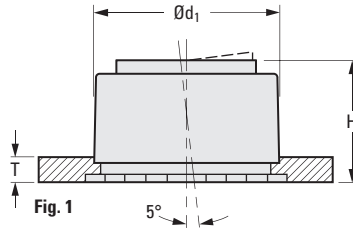
-30°C to +100°C

**> FEATURES:**

High-speed, high-load applications.  
 Knurling ensures secure self-clinching.  
 Simple quick installation.  
 Major assembly and production savings.  
 Mounting blocks not necessary.

**> SHAFT REQUIREMENTS:**

Any material, HRC 58 to 64, with a 0.4 µm or finer finish.



The projections shown are per ISO convention.

**SHAFT DIAMETERS  
 SELF-ALIGNING & NONALIGNING**

Nominal Shaft Diameter	Maximum Diameter	Minimum Diameter
4	4.000	3.992
6	6.000	5.992
8	8.000	7.991
10	10.000	9.991
12	12.000	11.989
15	15.000	14.989
18	18.000	17.989

**METRIC COMPONENT**

Catalog Number	d Nom. I.D.	d <sub>1</sub> Panel Hole Dia. +0.07 0	T Min. Panel Thickness	D Knurl O.D.	H Height	Max. Speed rpm	Max. Radial Load
<b>Fig. 1 Self-Aligning</b>							
A 7246MFSN04M	4	15.9	1.5	17	11.6	41000	1780
A 7246MFSN06M	6	15.9	1.5	17	11.6	35000	1830
A 7246MFSN08M	8	20.6	1.5	22	16.3	28000	1830
A 7246MFSN10M	10	20.6	1.5	22	16.3	23000	2550
A 7246MFSN12M	12	27	2	28	19.5	20000	2550
A 7246MFSN15M	15	31.8	2.3	33	22.5	16000	7800
<b>Fig. 2 Nonaligning</b>							
A 7248MFSN06M	6	15.9	1.5	17	10.8	35000	1830
A 7248MFSN08M	8	15.9	1.5	17	11.1	28000	2500
A 7248MFSN10M	10	20.6	1.5	22	12.7	23000	2500
A 7248MFSN12M	12	20.6	1.5	22	12.7	20000	4000
A 7248MFSN15M	15	27	2.3	28	12.7	16000	7800
A 7248MFSN18M	18	31.8	2.3	33	16	13000	7800

See next page for installation data



FOR NEEDLE ROLLER PRESSBEARINGS  
 TOOLING AND INSTALLATION DATA  
 SELF-ALIGNING TO  $\pm 5^\circ$  OR NONALIGNING

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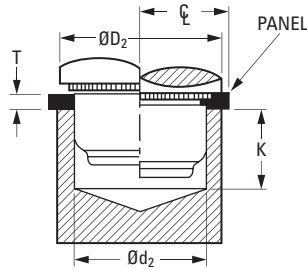
**> INSTALLATION:**

1. Punch or drill and ream a hole of diameter  $d_1$  in panel as specified in the table below.  
 Panel hardness HRB 65 max.

**DO NOT DEBURR OR BREAK EDGE OF HOLE.**

2. Place bearing assembly in hole. The slight interference fit assures centering the assembly in the mounting hole.
3. Using an anvil with diameter  $d_2$ , a minimum depth of  $K$  and a Press Tool diameter of  $D_2$ , install the bearing assembly into the panel by constantly applying a force of  $F$ , per the table, until the assembly is flush with the panel surface.

**DO NOT USE HAMMER BLOWS!**



**TOOLING AND INSTALLATION DATA**

Nominal Shaft Diameter	$d_1$ Panel Hole Dia. +0.07 0	$d_2$ Anvil Dia. +0.1 0	K Minimum Anvil Depth	$D_2$ Press Tool Minimum Dia.	$C$ Min. Dist. Centerline to Panel Edge	F Install Force Cold-Rolled Steel kN
<b>Fig. 1 Self-Aligning</b>						
4	15.9	16.35	16.6	22	11.5	49
6	15.9	16.35	16.6	22	11.5	49
8	20.6	21.05	21.3	27	12.7	49
10	20.6	21.05	21.3	27	12.7	49
12	27	27.45	24.5	33	19	54
15	31.8	32.25	27.5	38	19	54
<b>Fig. 2 Nonaligning</b>						
6	15.9	16.35	15.8	22	11.5	49
8	15.9	16.35	16.1	22	11.5	49
10	20.6	21.05	17.7	27	12.7	49
12	20.6	21.05	17.7	27	12.7	49
15	27	27.45	23.7	33	19	54
18	31.8	32.25	21	38	19	54

See previous page for product specifications

SELF-ALIGNING TO  $\pm 5^\circ$   
FLANGE-MOUNTED

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**> MATERIAL:**

**Bearing** - Drawn Cup Needle  
**Housing** - Carbon Steel, Black Oxide Finish

**> OPERATING TEMPERATURE:**

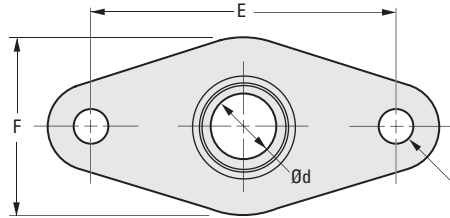
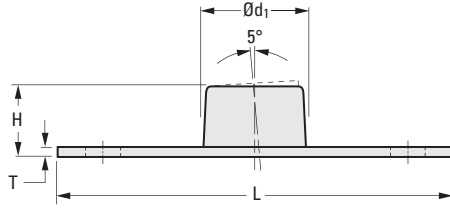
-30°C to +100°C

**> SHAFT REQUIREMENTS:**

Any material, HRC 58 to 64  
with a 0.4  $\mu\text{m}$  or finer finish.



Nominal Shaft Diameter	Maximum Diameter	Minimum Diameter
4	4.000	3.992
6	6.000	5.992
8	8.000	7.991
10	10.000	9.991
12	12.000	11.989
15	15.000	14.989



Ø5.5 HOLE (TYP)

The projections shown are per ISO convention.

**METRIC COMPONENT**

Catalog Number	d Nom. I.D.	d <sub>1</sub> Clearance Hole Dia. (Ref.)	L Overall Length	F Overall Width	E Mounting Distance	T Nominal Flange Thickness	H Height	Max. Speed rpm	Max. Radial Load N
* A 7Z56MBFM04MN	4	13.5	45	22.3	31	1.2	10.2	41000	1780
A 7Z56MBFM06MN	6	17	53	30	39	1.5	11.6	35000	2550
A 7Z56MBFM08MN	8	22	45	31.8	30.9	2.3	16.3	28000	2550
A 7Z56MBFM10MN	10	22	45	31.8	30.9	2.3	16.3	23000	2550
A 7Z56MBFM12MN	12	28	60	39.6	45.2	2.3	19.5	20000	4000
A 7Z56MBFM15MN	15	33	60	47	45.2	2.3	22.5	16000	4800

\* To be discontinued when present stock is depleted.

NONALIGNING  
FLANGE-MOUNTED

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**> MATERIAL:**

**Bearing** - Drawn Cup Needle  
**Housing** - Carbon Steel, Black Oxide Finish

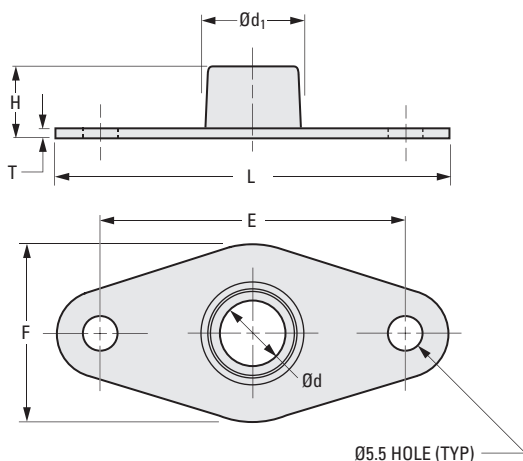
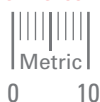
**> OPERATING TEMPERATURE:**

-30°C to +100°C

**> SHAFT REQUIREMENTS:**

Any material, HRC 58 to 64,  
with a 0.4 µm or finer finish.

Nominal Shaft Diameter	Maximum Diameter	Minimum Diameter
6	6.000	5.992
8	8.000	7.991
10	10.000	9.991
12	12.000	11.989
15	15.000	14.989
18	18.000	17.989



The projections shown are per ISO convention.

**METRIC COMPONENT**

Catalog Number	d Nom. I.D.	d <sub>1</sub> Clearance Hole Dia. (Ref.)	L Overall Length	F Overall Width	E Mounting Distance	T Nominal Flange Thickness	H Height	Max. Speed rpm	Max. Radial Load N
A 7Z57MBFM06MN	6	16.7	53	30	38.8	1.5	10.8	35000	2550
A 7Z57MBFM08MN	8	16.7	53	30	38.8	1.5	11.1	28000	2550
A 7Z57MBFM10MN	10	22	45	31.8	31	2.3	12.7	23000	2550
A 7Z57MBFM12MN	12	22	45	31.8	31	2.3	12.7	20000	4000
A 7Z57MBFM15MN	15	28	60	39.6	45.2	2.3	18.7	16000	4800
A 7Z57MBFM18MN	18	32.5	60	39.6	45.2	2.3	16	13000	6380