

# Plummer Block Housings

Plummer Block housings ease to constitute bearing units by using with self-aligning ball bearings or spherical roller bearings. NACHI Plummer Block housing design is improved in term of accuracy, strength and rigidity.

## Features

- Wide range of sizes and configurations allows selection of optimal housing.
- Low weight to strength ratio.
- For straight shaft, the bearings with tapered bore and adapter can be mounted at any selected shaft position.
- For stepped-shaft, the bearings with cylindrical bore are fixed by shaft nut.

## Table of contents

Type		Symbol	Bore diameter on both sides	Applicable Bearing	Shaft Dia. (mm)
Split type	SN Standard type	SN5	Same	Tapered bore with adapter	20 ~ 140
		SN6			20 ~ 140
		SN30			10 ~ 170
		SN31			00 ~ 170
	SN Flat bottom type	SN5F	Same	Tapered bore with adapter	20 ~ 140
		SN6F			20 ~ 140
	SN Large bore dia on both sides	SN2	Same	Cylindrical bore	25 ~ 160
		SN3			25 ~ 85
		SN2C	Difference	Cylindrical bore	25 ~ 160
		SN3C			25 ~ 85
	SN Large bore dia on both sides Flat bottom	SN2F	Same	Cylindrical bore	25 ~ 160
		SN3F			25 ~ 85
		SN2FC	Difference	Cylindrical bore	25 ~ 160
		SN3FC			25 ~ 85
	SD Standard type	SD5	Same	Tapered bore with adapter	150 ~ 300
		SD6			150 ~ 260
SD30		150 ~ 300			
SD31		150 ~ 300			
One-piece type	V Standard type	V	Same	Tapered bore with adapter	30 ~ 200
			Difference	Cylindrical bore	35 ~ 220

Remark: Please contact NACHI for housings not listed in table, special dimension, and with special accessories.





# 1. Materials for Plummer Block Housings

NACHI Plummer Block housings are made of gray cast iron FC200. Spheroidal graphite iron castings FCD450 or carbon steel castings SC450 can be used for severe conditions such as vibration, shock and heavy load.

Materials for accessories are shown in right table.

## Materials for Accessories

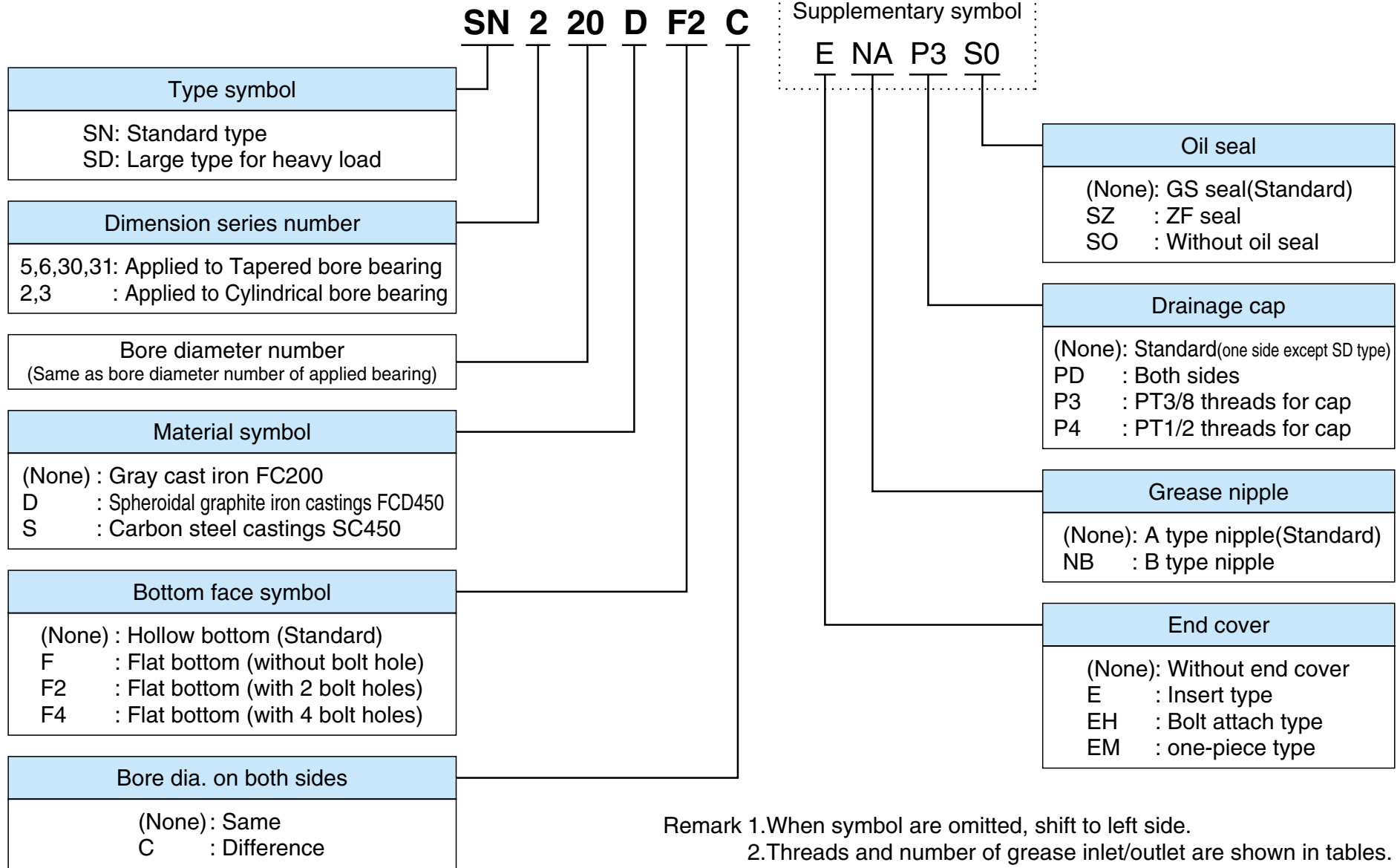
Accessory	Material	Symbol
Bolt	Rolled steels for general structure	SS400
Spring lock washer	High carbon steel wire rods	SWRH62B
Cover of V series	Gray iron castings	FC200
Oil seal	Nitrile rubber	NBR
Drainage plug	Carbon steels for machine structure use	S10C
Eyebolt	Rolled steels for general structure	SS400
Grease nipple	Free-cutting brass	C3604B
Locating ring	Gray iron castings	FC200
Adapter sleeve, Locknut, Lockplate	Carbon steels for machine structure use or Rolled steels for general structure	S25C or SS400
Plain washer	Rolled steels for general structure	SS400







• Split-housings



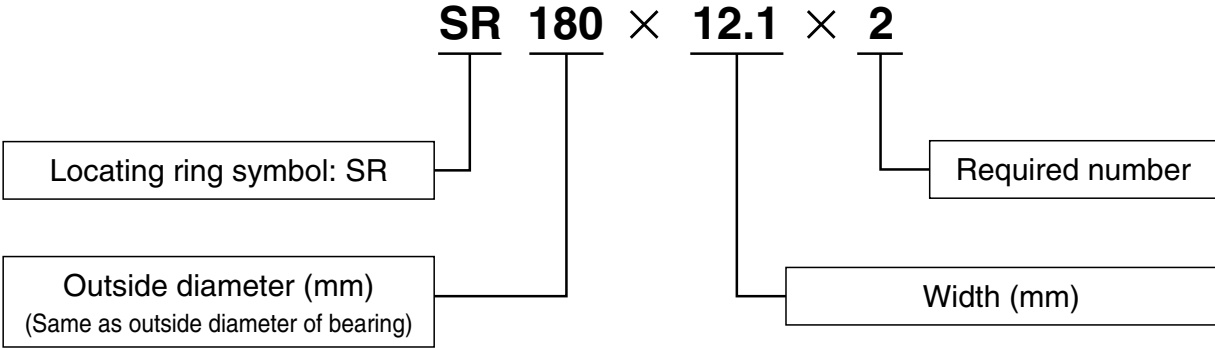
Remark 1. When symbol are omitted, shift to left side.  
 2. Threads and number of grease inlet/outlet are shown in tables.  
 3. Grease nipple A type is attached at grease inlet.





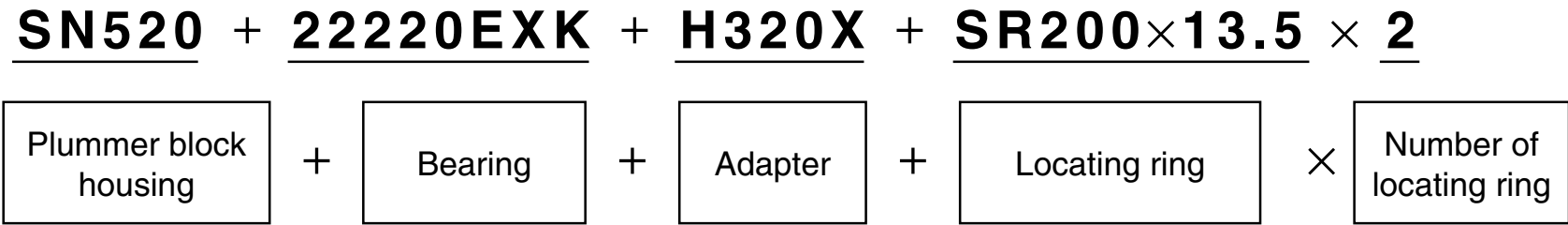
**(2) Locating Rings**

Locating ring for fixed side housing is identified as follows.  
 locating ring should be prepared besides plummer block housings.  
 The dimension table show the designation and number of ring required for each bearing.



**(3) Combination of Plummer Block Housing, Bearing, Adapter and Locating Ring**

The designations of combination are obtained by adding each with '+' as following order.



Remark: Designations for parts not required are omitted.

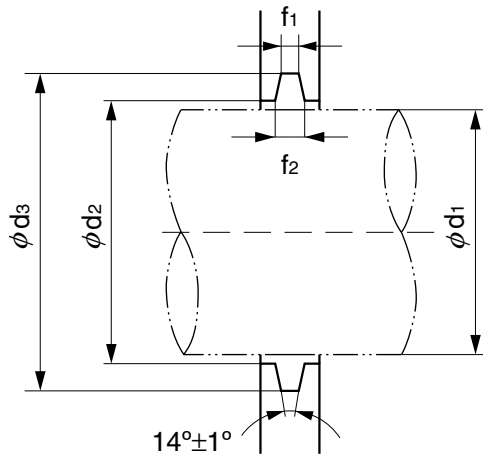




### 3. Tolerances for Plummer Block Housings

The tolerances of housing seating bore, width and height from mounting face to centerline of housing seating bore are shown in dimension tables.

The bore diameter and tolerance of the openings at both sides of housings are shown in right table.



Side opening of housing

#### Dimensions and Tolerances of Side Openings

(1/3)

Unit: mm

Shaft Dia		d <sub>2</sub>		d <sub>3</sub>		f <sub>1</sub>		f <sub>2</sub>	Oil seal
d <sub>1</sub>	Nominal	Tolerance (H12)	Nominal	Tolerance (H12)	Nominal	Tolerance (H13)	Nominal	(Ref.)	
<b>20</b>	21.5	+0.210	31	+0.250 0	3	+0.140 0	4.2	GS 5	
<b>25</b>	26.5	0	38		4		5.4	GS 6	
<b>30</b>	31.5		43		4		5.4	GS 7	
<b>35</b>	36.5	+0.250	48	+0.300 0	4	+0.180 0	5.4	GS 8	
<b>40</b>	41.5	0	53		4		5.4	GS 9	
<b>45</b>	46.5		58		4		5.4	GS 10	
<b>50</b>	51.5	+0.300 0	67	+0.350 0	5	+0.220 0	6.9	GS 11	
<b>55</b>	56.5		72		5		6.9	GS 12	
<b>60</b>	62		77		5		6.9	GS 13	
<b>65</b>	67	+0.350 0	82	+0.400 0	5		6.8	GS 15	
<b>70</b>	72		89		6		8.1	GS 16	
<b>75</b>	77		94		6		8.1	GS 17	
<b>80</b>	82	+0.350 0	99	+0.400 0	6		8.1	GS 18	
<b>85</b>	87		104		6		8.1	GS 19	
<b>90</b>	92		111		7		9.3	GS 20	
<b>95</b>	97	+0.350 0	116	+0.400 0	7		9.3	GS 21	
<b>100</b>	102		125		8		10.8	GS 22	
<b>105</b>	107		130		8		10.8	GS 23	

Remark: Number of oil seal is applicable to ZF seal with same number.

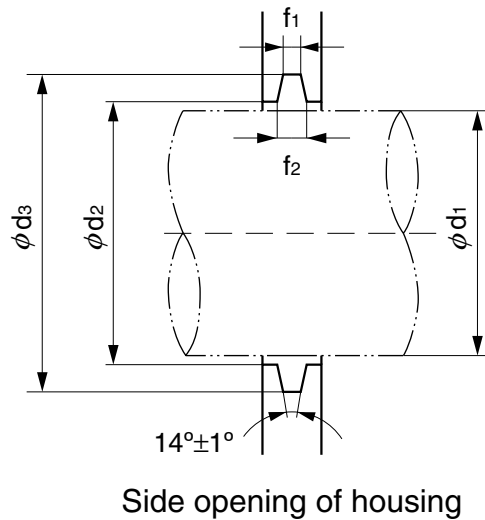




## Dimensions and Tolerances of Side Openings

(2/3)

Unit: mm



Shaft Dia		d <sub>2</sub>		d <sub>3</sub>		f <sub>1</sub>		f <sub>2</sub>	Oil seal
d <sub>1</sub>	Nominal	Tolerance (H12)	Nominal	Tolerance (H12)	Nominal	Tolerance (H13)	Nominal	(Ref.)	
<b>110</b>	113		135	+0.400 0	8	+0.220 0	10.7	GS 24	
<b>115</b>	118		140		8		10.7	GS 26	
<b>120</b>	123		145		8		10.7	GS 27	
<b>125</b>	128	+0.400 0	154	+0.400 0	9		12.2	GS 28	
<b>130</b>	133		159		9		12.2	GS 29	
<b>135</b>	138		164		9		12.2	GS 30	
<b>140</b>	143		173	+0.400 0	10		13.7	GS 32	
<b>145</b>	148		178		10		13.7	GS 33	
<b>150</b>	153		183		10		13.7	GS 34	
<b>155</b>	158	+0.400 0	188		10	+0.220 0	13.7	GS 35	
<b>160</b>	163		193		10		13.7	GS 36	
<b>165</b>	168		198		10		13.7	GS 37	
<b>170</b>	173		203	+0.460 0	10		13.7	GS 38	
<b>175</b>	178		208		10		13.7	GS 39	
<b>180</b>	183		213		10		13.7	GS 40	
<b>190</b>	193	+0.460 0	223		10	+0.270 0	13.7	GS 42	
<b>200</b>	203		240		11		15.5	GS 44	
<b>210</b>	213		250		11		15.5	GS 46	

Remark: Number of oil seal is applicable to ZF seal with same number.

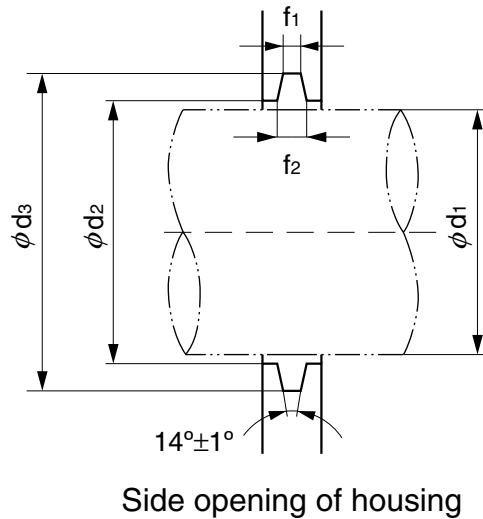




## Dimensions and Tolerances of Side Openings

(3/3)

Unit: mm



Shaft Dia		d <sub>2</sub>		d <sub>3</sub>		f <sub>1</sub>		f <sub>2</sub>	Oil seal
d <sub>1</sub>	Nominal	Tolerance (H12)	Nominal	Tolerance (H12)	Nominal	Tolerance (H13)	Nominal	(Ref.)	
<b>220</b>	223		260	+0.520 0	11	+0.270 0	15.5	GS 48	
<b>230</b>	233		270		11		15.5	GS 50	
<b>240</b>	243		286		12		17.3	GS 52	
<b>250</b>	253	+0.520 0	296	12	17.3		GS 54		
<b>260</b>	263		306	12	17.3		GS 56		
<b>270</b>	273		322	13	19		GS 58		
<b>280</b>	283	+0.570 0	332	+0.570 0	13		19	GS 60	
<b>300</b>	303		352		13		19	GS 64	
<b>320</b>	323		370		14		19.8	GS 68	
<b>340</b>	343	+0.570 0	390	+0.630 0	14		19.8	GS 72	
<b>360</b>	363		412		13	19	GS 76		
<b>380</b>	383		432		13	19	GS 80		
<b>400</b>	403	+0.630 0	452	+0.630 0	14	20	GS 84		
<b>410</b>	413		460		14	19.8	GS 88		
<b>430</b>	433		480		14	19.8	GS 92		
<b>450</b>	453		505	+0.700 0	14	20.3	GS 96		

Remark: Number of oil seal is applicable to ZF seal with same number.





## Applicable Bearings

Bearing type Housing type	Self-aligning Ball Bearing				Spherical Roller Bearing					
	12	22	13	23	230	231	222	232	213	223
SN5 SN5F	05K ~ 22K	05K ~ 22K	—	—	—	—	05K ~ 32K	18K ~ 32K	—	—
SN6 SN6F	—	—	05K ~ 22K	05K ~ 22K	—	—	—	—	05K ~ 22K	08K ~ 32K
SN30	—	—	—	—	24K ~ 38K	—	—	—	—	—
SN31	—	—	—	—	—	22K ~ 38K	—	—	—	—
SN2 SN2F	05 ~ 22	05 ~ 22	—	—	—	—	05 ~ 32	18 ~ 32	—	—
SN3 SN3F	—	—	05 ~ 17	05 ~ 17	—	—	—	—	05 ~ 17	08 ~ 17
SD5	—	—	—	—	—	—	34K ~ 64K	—	—	—
SD6	—	—	—	—	—	—	—	—	—	34K ~ 56K
SD30	—	—	—	—	34K ~ 64K	—	—	—	—	—
SD31	—	—	—	—	—	34K ~ 64K	—	—	—	—
V	08(K) ~ 22(K)	08(K) ~ 22(K)	07(K) ~ 22(K)	07(K) ~ 22(K)	22(K) ~ 44(K)	22(K) ~ 40(K)	08(K) ~ 38(K)	22(K) ~ 38(K)	07(K) ~ 22(K)	08(K) ~ 32(K)