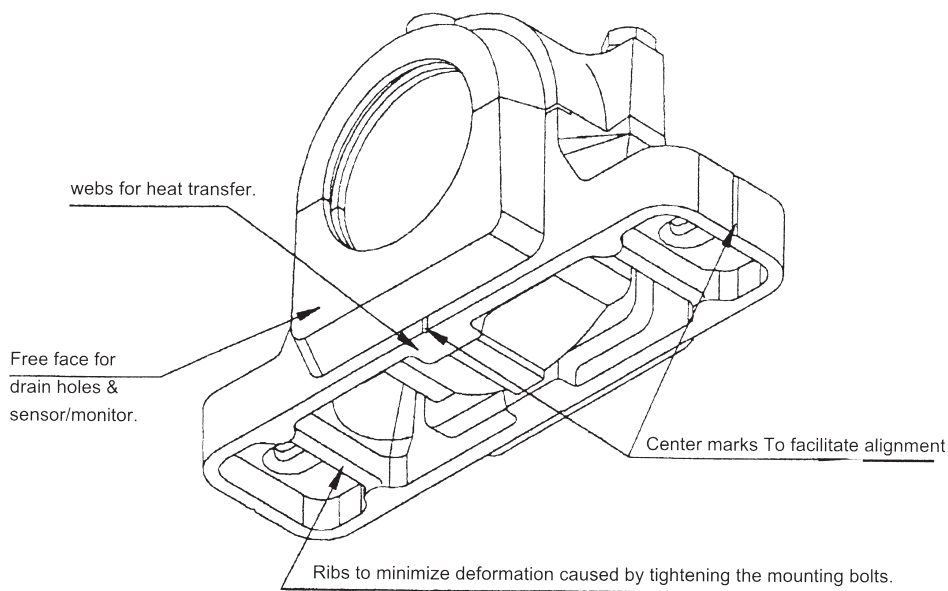
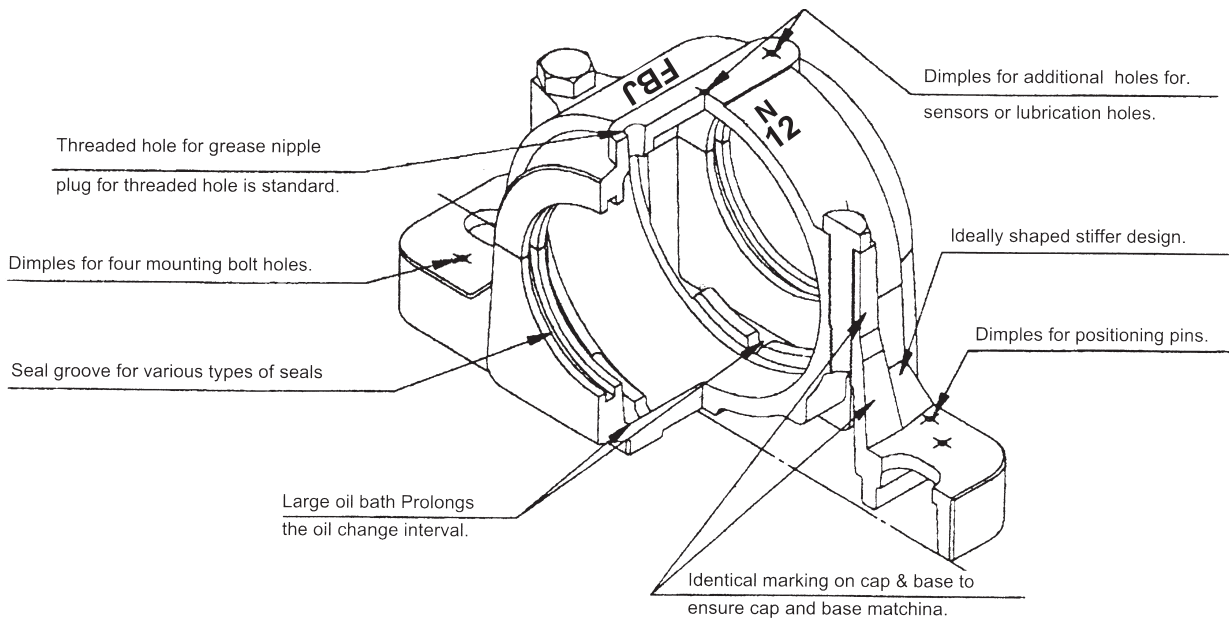


## 9. BASIC STRUCTURE OF FBJ

# PLUMMER BLOCK HOUSINGS

### STRUCTURE OF PLUMMER BLOCK HOUSINGS



## 10. MATERIALS AND MACHINING TOLERANCES

Plummer Block Housings are cast and produced in accordance with ISO/R113-1994 standard. (B.S. 1642: 969 standard, JIS B 1551 - 1968 standard) The following tables show materials and relative machining tolerance covering the housings and its accessories.

### 10.1 HOUSING

MATERIAL	JIS		TENSILE STRENGTH kgf/mm <sup>2</sup>
	SYMBOL	SYMBOL	
GREY CAST IRON	FC 200	G 5501	20

### 10.2 ACCESSORIES

NAME	PART NO.	MATERIALS
FELT STRIP	FS	60%-80% WOOL,20%RAYON,DENSITY 0.25g/cm2
LOCATING RING	SR	MILD STEEL STRIP AISI 1010/ALUMINUM
HEXAGON BOLT	M	MILD STEEL AISI 1010
ZF SEAL	ZF	NBR
END COVER	500NA	NBR & MILD STEEL PLATE
END PLATE	P	MILD STEEL PLATE
END COVER	TSA	CAST IRON
END PLUG	EPR	NBR & MILD STEEL

*Different types of sealins arrangements can be supplied on request.*

### 10.3 MACHINING TOLERANCE:

#### 10.3.1 HOUSINGS BORE.

(0.001mm)

BORE mm	G7	H7	H8	J7
10 - 18	+24 +6	+18 -0	+27 -0	+10 -8
18 - 30	+28 +7	+21 -0	+33 -0	+12 -9
30 - 50	+34 +9	+25 -0	+39 -0	+14 -11
50 - 80	+40 +10	+30 -0	+46 -0	+18 -12
80 - 120	+42 +12	+35 -0	+54 -0	+22 -13
120 - 180	+54 +14	+40 -0	+63 -0	+26 -14
180 - 250	+61 +15	+46 -0	+72 -0	+30 -16
250 - 315	+69 +17	+52 -0	+82 -0	+36 -16
315 - 400	+75 +18	+57 -0	+89 -0	+39 -18
400 - 500	+83 +20	+63 -0	+97 -0	+43 -20
500 - 620	+92 +23	+69 -0	+104 -0	+46 -23

#### 10.3.2 EXCEPT HOUSINGS BORE

(0.001mm)

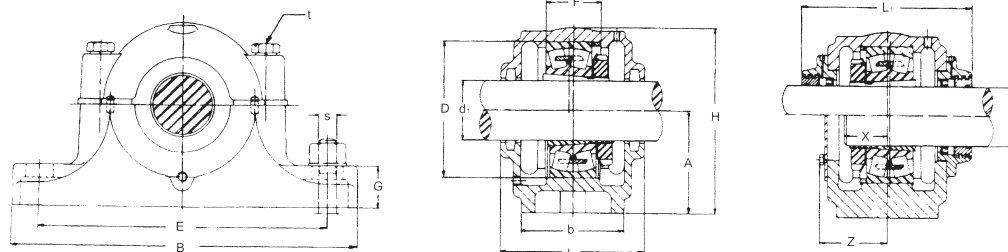
DIMENSION mm	H10	H11	H12	H13	h13
10 - 18	+70 -0	+110 -0	+180 -0	+270 -0	+0 -270
18 - 30	+84 -0	+130 -0	+210 -0	+330 -0	+0 -330
30 - 50	+100 -0	+160 -0	+250 -0	+390 -0	+0 -390
50 - 80	+120 -0	+190 -0	+300 -0	+460 -0	+0 -460
80 - 120	+140 -0	+220 -0	+350 -0	+540 -0	+0 -540
120 - 180	+160 -0	+250 -0	+400 -0	+630 -0	+0 -630
180 - 250	+185 -0	+290 -0	+460 -0	+720 -0	+0 -720
250 - 315	+210 -0	+320 -0	+520 -0	+810 -0	+0 -810
315 - 400	+230 -0	+360 -0	+570 -0	+890 -0	+0 -890

### 10.4 SELECTION OF BEARING HOUSING TOLERANCES

Conditions		Examples	Tolerance symbol according to JIS
Indeterminate load direction	Normal and light loads, Axial displacement of the outer ring desirable	Electrical motors, Pumps Crankshaft main bearings	J7
	Shock loads, Temporary complete unloading	Journal boxes for rail vehicles	
Fixed outer ring load	All loads	Bearing applications in general, Journal boxes for rail vehicles	H7
	Normal and light loads, Load under	Line shaftings	H8
	Heat supplide through the shaft	Dryer cylinders	G7

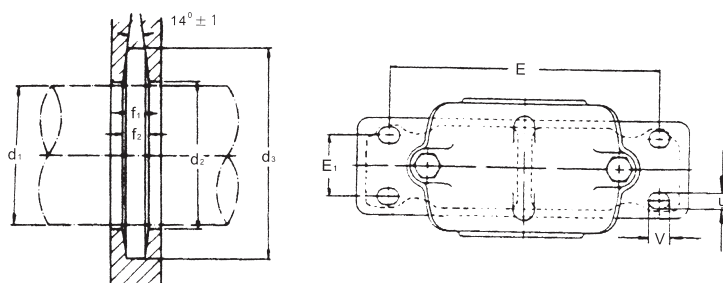
## Plummer Block

## SN-SSN 500 Series



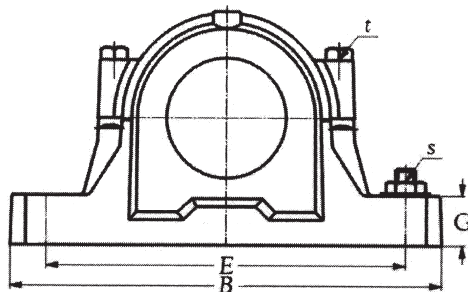
Bearing Unit / Insert

NOMINAL DIMENSIONS (mm)																
HOUSING NO.	SHAFT DIA. d1		D H8	B	b	G	F H13	A h13	L	H	E	E1	L1	X	Z	d2H12 METRIC
	METRIC	INCH														
SN 505	20	3/4	52	165	46	22	25	40	67	75	130	25	-	22	-	21.5
SN 506	25	1	62	185	52	22	30	50	77	90	150	25		22		26.5
SN 507	30	1-1/8	72	185	52	22	33	50	82	95	150	25	-	24	-	31.5
SN 508	35	1-1/4	80	205	60	25	33	60	85	110	170	30	-	26	-	36.5
SN 509 SSN	40	1-1/2	85	205	60	25	31	60	85	112	170	30	-	28	-	41.5
SN 510 SSN	45	1-3/4	90	205	60	25	33	60	90	115	170	30	-	28	-	46.5
SN 511 SSN	50	2	100	255	70	28	33	70	95	130	210	35	160	30	54	51.5
SN 512 SSN	55	2-1/8	110	255	70	30	38	70	105	135	210	35	172	32	62	56.5
SN 513 SSN	60	2-1/4	120	275	80	30	43	80	110	150	230	40	172	36	62	62
SN 515 SSN	65	2-1/2	130	280	80	30	41	80	115	155	230	40	182	38	68	67
SN 516 SSN	70	2-3/4	140	315	90	32	43	95	120	175	260	50	184	40	68	72
SN 517 SSN	75	3	150	320	90	32	46	95	125	185	260	50	184	42	70	77
SN 518 SSN	80	3-1/4	160	345	100	35	62.4	100	145	195	290	50	204	50	81	82
SN 519 SSN	85	-	170	345	100	35	53	112	140	210	290	50	-	-	-	87
SN 520 SSN	90	3-1/2	180	380	110	40	70.3	112	160	218	320	60	224	54	90	92
SN 522 SSN	100	4	200	410	120	45	80	125	175	240	350	70	232	60	92	102
SN 524 SSN	110	4-1/4	215	410	120	45	86	140	185	270	350	70	248	64	95	113
SN 526 SSN	115	4-1/2	230	445	130	50	90	150	190	290	380	70	268	64	100	118
SN 528 SSN	125	5	250	500	150	50	98	150	205	305	420	80	286	70	108	128
SN 530 SSN	135	5-1/4	270	530	160	60	106	160	220	325	450	90	304	76	113	138
SN 532 SSN	140	5-1/2	290	550	160	60	114	170	235	345	470	90	320	80	122	143

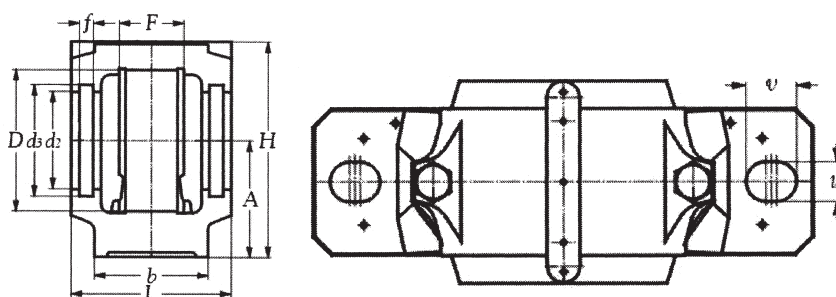


d3 H12	t	f1 H13	f2 H8	u	v	S		WEIGHT (kg)		BEARING NO.		ADAPTER SLEEVE		LOCATING RING	
						2 bolt	4 bolt	SN5	SSN5	SELF-ALIG BALL	SPHERICAL ROLLER	METRIC	INCH	NUMBER	QTY
31	M8	3	4.2	15	20	M12	M8	1.5	2.3	1205K	-	H205	HE205	52X7	2
										22205K	22205K	H305	HE305	52X7	1
38	M8	4	5.4	15	20	M12	M10	1.74	2.8	1206K	-	H206	HE206	62X7	2
										22206K	22206K	H606	HE606	62X10	1
43	M10	4	5.4	15	20	M12	M10	1.9	3.2	12067K	-	H207	HS207	72X8	
										22207K	22207K	H307	HS307	72X10	1
48	M10	4	5.4	15	20	M12	M10	2.63	3.2	1208K	-	H208	HE208	80X7.5	2
										22208K	22208K	H308	HE308	80X10	1
53	M10	4	5.4	15	20	M12	M10	2.64	3.7	1209K	-	H209	HE209	85X6	2
										22209K	22209K	H309	HE309	85X8	1
58	M10	4	5.4	15	20	M12	M10	2.80	3.8	1210K	-	H210	HE210	90X6.5	2
										22210K	22210K	H310	HE310	90X10	1
67	M12	5	6.9	18	23	M16	M12	4.32	6.2	1211K	-	H211	HE211	100X6	2
										22211K	22211K	H311	HE311	100X8	1
72	M12	5	6.9	18	23	M16	M12	4.99	6.5	1212K	-	H212	HS212	110X8	2
										22212K	22212K	H312	HS312	110X10	1
77	M12	5	6.8	18	23	M16	M12	5.64	8.3	1213K	-	H213	HE213	120X10	2
										22213K	22213K	H313	HE313	120X12	1
82	M12	5	6.8	18	23	M16	M12	6.19	9.0	1215K	-	H215	HE215	130X8	2
										22215K	22215K	H315	HE315	130X10	1
89	M16	6	8.1	22	27	M20	M12	8.17	12.1	1216K	-	H216	HE216	140X8.5	2
										22216K	22216K	H316	HE316	140X10	1
94	M16	6	8.1	22	27	M20	M12	9.37	12.2	1217K	-	H217	HE217	150X9	2
										22217K	22217K	H317	HE317	150X10	1
99	M16	6	8.1	22	27	M20	M16	11.5	15.2	1218K	-	H218	HE218	160X716.2	2
										22218K	22218K	H318	HE318	160X11.2	2-
										23218K	23218K	H2318	HE2318	160X10	1
104	M16	6	8.1	22	28	M20	M16	13.5	17.7	1219K	-	H219		170X10.5	2
										-	22219K	H319		170X10	1
111	M20	7	9.3	26	32	M24	M16	16.3	20.5	2220K	22220K	H320	HE320	180X12.1	2
										-	23220K	H2320	HE2320	180X10	1
125	M20	8	10.8	26	32	M24	M16	25.1	29.2	2222K	22222K	H322	HE322	200X13.5	2
										-	23222K	H2322	HE2322	200X10	1
135	M20	8	10.7	26	34	M24	M16	27.2	33	-	22224K	H3124	HE3124	215X14	2
										-	23224K	H2324	HE2324	215X10	1
140	M24	8	10.7	28	35	M24	M20	35.2	40.9	-	22226K	H3126	HE3126	230X13	2
										-	23226K	H2326	HE2326	230X10	1
154	M24	9	12.2	34	44	M30	M24	43.7	48.6	-	22228K	H3128	HE3128	250X15	2
										-	23228K	H2328	HE2328	250X10	1
164	M24	9	12.2	34	42	M30	M24	45.3	56.2	-	22230K	H3130	HE3130	270X16.5	2
										-	23230K	H2330	HE2330	270X10	1
173	M24	10	13.7	32	44	M30	M24	50.75	68.5	-	22232K	H3132	HE3132	290X17	2
										-	23232K	H2332	HE2332	290X10	1

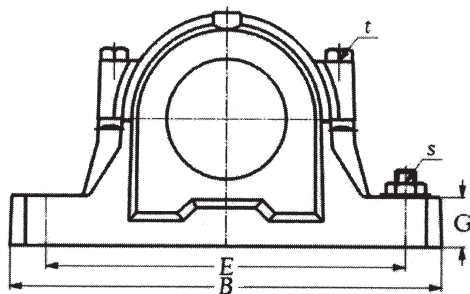
**NOTES:**  
 Foot of standard housing SSN type is solid without mounting holes or can be precast as 2-bolt (with prefix T) or 4-bolt mounting holes (with prefix F).  
 Taconite seal will be supplied as optional for perfect arrangement in severe operating conditions to prevent contamination from fine abrasive dust.  
 ZF rubber seals can be supplied upon request.



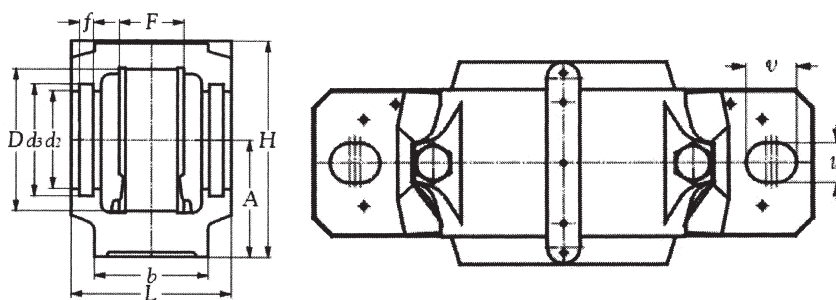
HOUSING SIZE	SHAFT DIAMETER d(mm)	PLUMMER BLOCK HOUSING	PLUMMER BLOCK HOUSING DIMENSIONS (mm)										
			D (H8)	B	b	G	F (H13)	A (h13)	L	H	E	d <sub>2</sub> (H12)	d <sub>3</sub> (H13)
<b>SNU 505</b>	20	<b>SNU 505</b>	52	165	46	19	25	40	67	73	130	31.5	39.5
<b>SNU 605</b>	20	<b>SNU 506-605</b>	62	185	52	22	32	50	77	88	150	36.5	44.5
<b>SNU 506</b>	25	<b>SNU 506-605</b>	62	185	52	22	32	50	77	88	150	36.5	44.5
<b>SNU 606</b>	25	<b>SNU 507-606</b>	72	185	52	22	34	50	82	93	150	46.5	54.5
<b>SNU 507</b>	30	<b>SNU 507-606</b>	72	185	52	22	34	50	82	93	150	46.5	54.5
<b>SNU 607</b>	30	<b>SNU 508-607</b>	80	205	60	25	39	60	85	107	170	51.5	59.5
<b>SNU 508</b>	35	<b>SNU 508-607</b>	80	205	60	25	39	60	85	107	170	51.5	59.5
<b>SNU 608</b>	35	<b>SNU 510-608</b>	90	205	60	25	41	60	90	112	170	62.0	70.5
<b>SNU 509</b>	40	<b>SNU 509</b>	85	205	60	25	30	60	85	109	170	56.5	64.5
<b>SNU 609</b>	40	<b>SNU 511-609</b>	100	255	70	28	44	70	95	127	210	67.0	75.5
<b>SNU 510</b>	45	<b>SNU 510-608</b>	90	205	60	25	41	60	90	112	170	62.0	70.5
<b>SNU 610</b>	45	<b>SNU 512-610</b>	110	255	70	30	48	70	105	133	210	72.0	80.5
<b>SNU 511</b>	50	<b>SNU 511-609</b>	100	255	70	28	44	70	95	127	210	67.0	75.5
<b>SNU 611</b>	50	<b>SNU 513-611</b>	120	275	80	30	51	80	110	148	230	77.0	85.5
<b>2NU 512</b>	55	<b>SNU 512-610</b>	110	255	70	30	48	70	105	133	210	72.0	80.5
<b>SNU 612</b>	55	<b>SNU 515-612</b>	130	280	80	30	56	80	115	154	230	87.0	95.5
<b>SNU 513</b>	60	<b>SNU 513-611</b>	120	275	80	30	51	80	110	148	230	77.0	85.5
<b>2NU 613</b>	60	<b>SNU 516-613</b>	140	315	90	32	58	95	120	175	260	92.0	101.0
<b>SNU 515</b>	65	<b>SNU 515-612</b>	130	280	80	30	56	80	115	154	230	87.0	95.5
<b>SNU 615</b>	65	<b>SNU 518-615</b>	160	345	100	35	65	100	140	191	290	102.5	111.0



PLUMMER BLOCK HOUSING DIMENSIONS (mm)					APPROPRIATE APARTMENT							
f	u	v	s	t	WEIGHT Kg	BEARING NUMBER		ADAPTER SLEEVE	LOCATING RING		SEAL	END COVER
									NUMBER	QTY	NUMBER	
5	15	20	M12	M8	1.4	<b>1205 K</b> <b>2205 K</b>	<b>22205 K</b>	H205 H305	SR 52X5 SR 52X7	2 1	U 505	505 UA
5	15	20	M12	M8	1.9	<b>1305 K</b> <b>2305 K</b>		H305 H2305	SR 62X7.5 SR 62X8	2 1	U 605	506 UA
5	15	20	M12	M8	1.9	<b>1206 K</b> <b>2206 K</b>	<b>22206 K</b>	H206 H306	SR 62X8 SR 62X6	2 2	U 506	506 UA
5	15	20	M12	M10	2.0	<b>1306 K</b> <b>2306 K</b>		H306 H2306	SR 72X7.5 SR 72X7	2 1	U 606	507 UA
5	15	20	M12	M10	2.0	<b>1207 K</b> <b>2207 K</b>	<b>22207 K</b>	H207 H307	SR 72X8.5 SR 72X5.5	2 2	U 507	507 UA
5	15	20	M12	M10	2.7	<b>1307 K</b> <b>2307 K</b>		H307 H2307	SR 80X9 SR 80X8	2 1	U 607	508 UA
5	15	20	M12	M10	2.7	<b>1208 K</b> <b>2208 K</b>	<b>22208 K</b>	H208 H308	SR 80X1.5 SR 80X8	2 2	U 508	508 UA
5	15	20	M12	M10	2.9	<b>1308 K</b> <b>2308 K</b>	<b>21308 K</b> <b>22308 K</b>	H308 H2308	SR 90X9 SR 90X8	2 1	U 608	511 NA-510 UA
5	15	20	M12	M10	2.8	<b>1209 K</b> <b>2209 K</b>	<b>22209 K</b>	H209 H309	SR 85X5.5 SR 85X7	2 1	U 509	509 UA
5	18	24	M16	M12	4.5	<b>1309 K</b> <b>2309 K</b>	<b>21309 K</b> <b>22309 K</b>	H309 H2309	SR 100X9.5 SR 100X8	2 1	U 609	512 NA-511 UA
5	15	20	M12	M10	2.9	<b>1210 K</b> <b>2210 K</b>	<b>22210 K</b>	H210 H310	SR 90X10.5 SR 90X9	2 2	U 510	511 NA-510 UA
5	18	24	M16	M12	5.0	<b>1310 K</b> <b>2310 K</b>	<b>21310 K</b> <b>22310 K</b>	H310 H2310	SR 110X10.5 SR 110X8	2 1	U 610	513 NA-512 UA
5	18	24	M16	M12	4.5	<b>1211 K</b> <b>2211 K</b>	<b>22211 K</b>	H211 H311	SR 100X11.5 SR 100X9.5	2 2	U 511	512 NA-511 UA
5	18	24	M16	M12	6.3	<b>1311 K</b> <b>2311 K</b>	<b>21311 K</b> <b>22311 K</b>	H311 H2311	SR 120X11 SR 120X8	2 1	U 611	515 NA-513 UA
5	18	24	M16	M12	5.0	<b>1212 K</b> <b>2212 K</b>	<b>22212 K</b>	H212 H312	SR 110X13 SR 110X10	2 2	U 512	513 NA-512 UA
5	18	24	M16	M12	6.6	<b>1312 K</b> <b>2312 K</b>	<b>21312 K</b> <b>22312 K</b>	H312 H2312	SR 130X12.5 SR 130X10	2 1	U 612	517 NA-515 UA
5	18	24	M16	M12	6.3	<b>1213 K</b> <b>2213 K</b>	<b>22213 K</b>	H213 H313	SR 120X14 SR 120X10	2 2	U 513	515 NA-513 UA
5	22	28	M20	M16	9.4	<b>1313 K</b> <b>2313 K</b>	<b>21313 K</b> <b>22313 K</b>	H313 H2313	SR 140X12.5 SR 140X10	2 1	U 613	518 NA-516 UA
5	18	24	M16	M12	6.6	<b>1215 K</b> <b>2215 K</b>	<b>22215 K</b>	H215 H315	SR 130X15.5 SR 130X12.5	2 2	U 515	517 NA-515 UA
5	22	28	M20	M16	12.3	<b>1315 K</b> <b>2315 K</b>	<b>21315 K</b> <b>22315 K</b>	H315 H2315	SR 160X14 SR 160X10	2 1	U 615	520 NA-518 UA



HOUSING SIZE	SHAFT DIAMETER d(mm)	PLUMMER BLOCK HOUSING	PLUMMER BLOCK HOUSING DIMENSIONS (mm)										
			D (H8)	B	b	G	F (H13)	A (h13)	L	H	E	d <sub>2</sub> (H12)	d <sub>3</sub> (H13)
<b>SNU 516</b>	70	<b>SNU 516-613</b>	140	315	90	32	58	95	120	175	260	92.5	101.0
<b>SNU 616</b>	70	<b>SNU 519-616</b>	170	345	100	35	68	112	145	208	290	131.0	141.0
<b>SNU 517</b>	75	<b>SNU 517</b>	150	320	90	32	61	95	125	181	260	97.5	106.0
<b>SNU 617</b>	75	<b>SNU 520-617</b>	180	380	110	40	70	112	160	214	320	137.5	147.5
<b>SNU 518</b>	80	<b>SNU 518-615</b>	160	345	100	35	65	100	140	191	290	102.5	111.0
<b>SNU 519</b>	85	<b>SNU 519-616</b>	170	345	100	35	68	112	145	208	290	131.0	141.0
<b>SNU 619</b>	85	<b>SNU 522-619</b>	200	410	120	45	80	125	175	237	350	147.5	157.5
<b>SNU 520</b>	90	<b>SNU 520-617</b>	180	380	110	40	70	112	160	214	320	137.5	147.5
<b>SNU 620</b>	90	<b>SNU 524-620</b>	215	410	120	45	86	140	185	271	350	157.5	167.5
<b>SNU 522</b>	100	<b>SNU 522-619</b>	200	410	120	45	80	125	175	237	350	147.5	157.5
<b>SNU 524</b>	110	<b>SNU 524-620</b>	215	410	120	45	86	140	185	271	350	157.5	167.5
<b>SNU 526</b>	115	<b>SNU 526</b>	230	445	130	50	90	150	190	290	380	167.5	177.5
<b>SNU 528</b>	125	<b>SNU 528</b>	250	500	150	50	98	150	205	302	420	177.5	187.5
<b>SNU 530</b>	135	<b>SNU 530</b>	270	530	160	60	106	160	220	323	450	192.5	202.5
<b>SNU 532</b>	140	<b>SNU 532</b>	290	550	160	60	114	170	235	344	470	202.5	212.5



PLUMMER BLOCK HOUSING DIMENSIONS (mm)						APPROPRIATE APARTMENT						
f	u	v	s	t	WEIGHT Kg	BEARING NUMBER		ADAPTER SLEEVE	LOCATING RING		SEAL NUMBER	END COVER
									NUMBER	QTY		
5	22	28	M20	M16	9.4	<b>1216 K</b> <b>2216 K</b>	<b>22216 K</b>	H216 H316	SR 140X16 SR 140X12.5	2 2	U 516	518 NA-516 UA
6	22	28	M20	M16	13.5	<b>1316 K</b> <b>2316 K</b>	<b>21316 K</b> <b>22316 K</b>	H316 H2316	SR 170X14.5 SR 170X10	2 1	U 616	526 NA-519 UA
5	22	28	M20	M16	9.8	<b>1217 K</b> <b>2217 K</b>	<b>22217 K</b>	H217 H317	SR 150X16.5 SR 150X12.5	2 2	U 517	519 NA-517 UA
6	26	32	M24	M20	16.6	<b>1317 K</b> <b>2317 K</b>	<b>21317 K</b> <b>22317 K</b>	H317 H2317	SR 180X14.5 SR 180X10	2 1	U 617	520 UA
5	22	28	M20	M16	12.3	<b>1218 K</b> <b>2218 K</b>	<b>22218 K</b> <b>23218 K</b>	H218 H318 H2318	SR 160X17.5 SR 160X12.5 SR 160X12.5	2 2 1	U 518	520 NA-518 UA
6	22	28	M20	M16	13.5	<b>1219 K</b> <b>2219 K</b>	<b>22219 K</b>	H219 H319	SR 170X18 SR 170X12.5	2 2	U 519	526 NA-519 UA
6	26	32	M24	M20	20.4	<b>1319 K</b> <b>2319 K</b>	<b>21319 K</b> <b>22319 K</b>	H319 H2319	SR 200X17.5 SR 200X13	2 1	U 619	528 NA-522 UA
6	26	32	M24	M20	16.6	<b>1220 K</b> <b>2220 K</b>	<b>22220 K</b> <b>23220 K</b>	H220 H320 H2320	SR 180X18 SR 180X12 SR 180X9.7	2 2 1	U 520	520 UA
6	26	32	M24	M20	25.0	<b>1320 K</b> <b>2320 K</b>	<b>21320 K</b> <b>22320 K</b>	H320 H2320	SR 215X19.5 SR 215X13	2 1	U 620	530 NA-524 UA
6	26	32	M24	M20	20.4	<b>1222 K</b> <b>2222 K</b>	<b>22222 K</b> <b>23222 K</b>	H222 H322 H2322	SR 200X21 SR 200X13.5 SR 200X10.2	2 2 1	U 522	528 NA-522 UA
6	26	32	M24	M20	25.0		<b>22224 K</b> <b>23224 K</b>	H3124 H2324	SR 215X14 SR 215X10	2 1	U 524	530 NA-524 UA
6	28	35	M24	M24	29.8		<b>22226 K</b> <b>23226 K</b>	H3126 H2326	SR 230X13 SR 230X10	2 1	U 526	532 NA-526 UA
6	35	42	M30	M24	37.5		<b>22228 K</b> <b>23228 K</b>	H3128 H2328	SR 250X15 SR 250X10	2 1	U 528	528 UA
6	35	42	M30	M24	46.0		<b>22230 K</b> <b>23230 K</b>	H3130 H2330	SR 270X16.5 SR 270X10	2 1	U 530	530 UA
6	35	42	M30	M24	51.0		<b>22232 K</b> <b>23232 K</b>	H3132 H2332	SR 290X17 SR 190X10	2 1	U 532	532 UA