SKF

SKF CONVEYOR PULLEY BEARING HOUSING FOR HIGH PERFORMANCE

For SDVD Series mining conveyor pulley bearings

SDVD concept

Market driven features

Market driven performance

Compatible with existing pulley arrangements

SKF Conveyor pulley bearing housings

Specifically designed and developed for conveyor pulleys in mining, minerals processing and bulk materials handling.

Interface dimensions (mounting bolt pattern, shaft centre height, base footprint) are fully compatible with the market standard (F)SNL(D), FSSND 5, SD 31 and SDD 31 series.

Design features and manufacturing specifications for SDVD housing assemblies are tailored to provide the optimum balance of:

- User-friendliness
- High performance
- Cost-effectiveness

The housings are suitable for conveyor duty in a wide range of industries

Market demands

Applications in mining industries vary from moderate to severe.

- High focus on contamination exclusion and greasing effectiveness

End users require:

- High performance
- Reliable operation
- Ease of maintenance
- Cost-effective products which enable:
  - Standardisation
  - Interchangeability
  - Low cost of ownership

Pulley designers and manufacturers require:

- Readily available products
- Cost-effective products
- Minimised overall width
  - optimisation of pulley design
  - cost reduction benefits
- Simplicity of installation

Industry sectors

SKF SDVD housings are designed specifically for the demands of the mining sector and similar industries.

Housing assemblies

- Have minimised width
- Can be fitted to any existing pulleys using the same basic bearing series

Housings

- 4 bolt mount base
- Manufactured in spheroidal graphite cast iron for robustness
- Bolt-on end covers

Housing seals

- Bolt-on (unsplit) TKV taconite style
- With axial labyrinth and V-ring

SKF SDVD series housings

- Incorporate SKF Explorer sealed spherical roller bearings (SSRB), the perfect choice for this industry segment
- Conventional unsealed spherical roller bearings are also fully compatible

OPTIMISED DESIGN

Benefits for conveyor pulley application

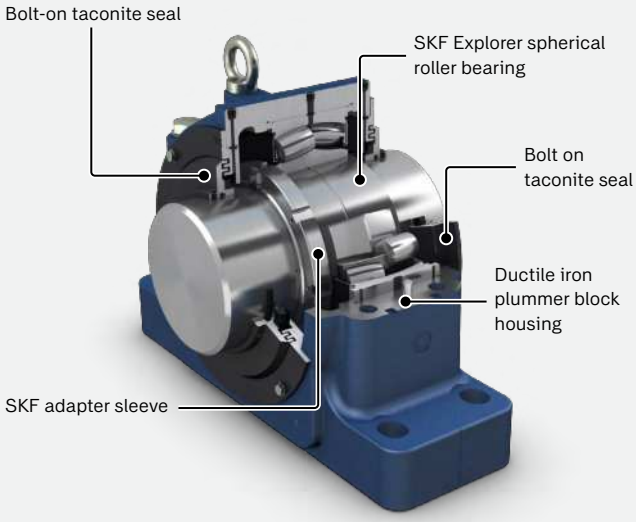
- Universally applicable due to minimised assembly width; SDVD housings can be retrofitted to all existing pulleys which use the same basic bearing housing size series
- Optimised design and reduced cost for new pulleys due to minimised assembly width
- Simple installation (initial assembly and in-situ rebuilds)
- Easy and accurate pulley alignment and in-situ maintenance; SDVD design facilitates bearing changes in-situ
- Delivers high performance, high reliability and contributes to longer service life for bearings

SIMPLE INSTALLATION

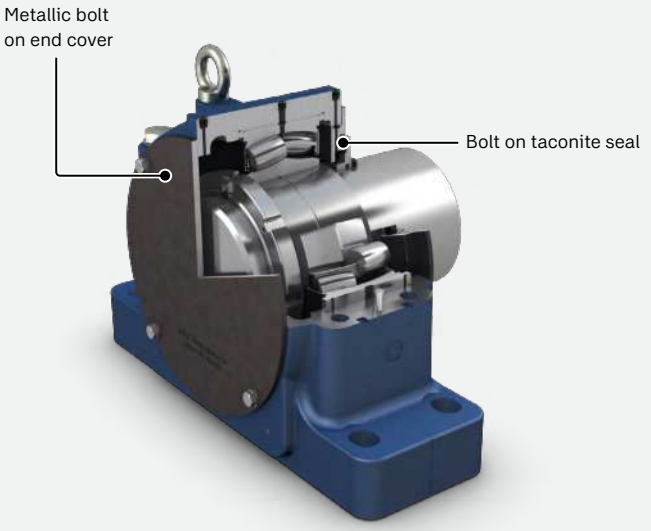
SDVD housing design features

- Non-symmetrical design: minimised width at inboard (pulley drum) side
- Seal carrier recessed into housing body: minimised assembly width
- Bearing seat form optimised for maximum service life and minimum vibration levels
- Seal carrier mounting opening diameter maximised:
  - Minimum pulley lift required to change bearings in-situ, if required
  - SKF Drive-up Methode applicable for bearing inside the housing (valid for SDVD 31 series)
  - Allows accurate and reliable mounting if changing bearing in-situ
- Centre line markings on base to assist pulley installation and alignment in both planes
- Spot faced positions for vibration sensors (horizontal, vertical and axial positions)
- Base and cap with unique match mark to eliminate risk of mixing components

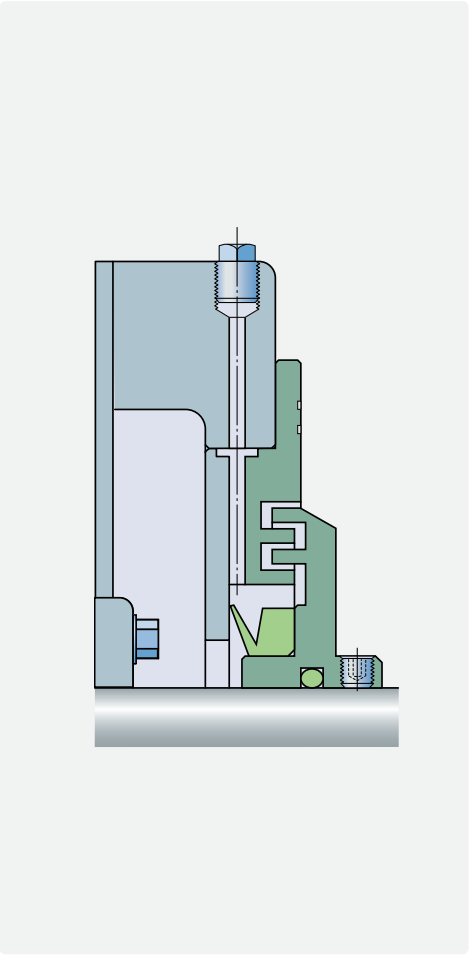
Plummer block housing with through shaft



Plummer block housing with shaft ending in housing



* Patent pending

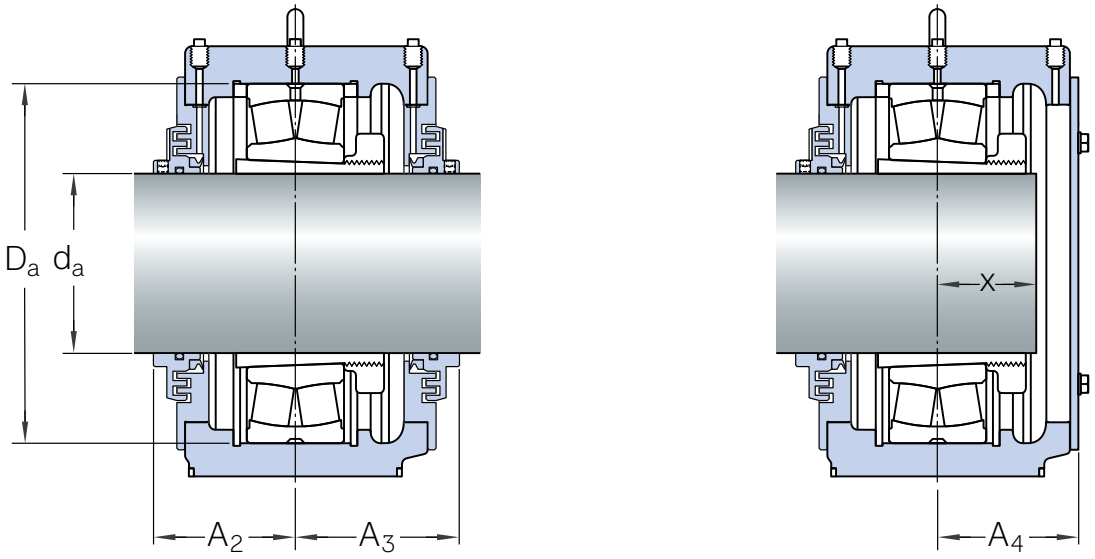


TKV taconite seal design features

- Axial labyrinth configuration
  - Flinger effect from rotating labyrinth part
  - No shaft damage due to wear as the V-ring lip is not in contact with the shaft
  - Easy and precise installation (labyrinth gap setting)
  - Positive location on shaft (set screws)
  - Static sealing on shaft (O-ring)
- Labyrinth clearances optimised for
  - Sealing performance
  - Misalignment tolerance capability
  - Axial displacement capability
- Grease inlet on housing cap
  - Robust attachment
  - No access limitations
  - Improved operator safety
  - Assembly width minimised
- Protective shroud (optional)
  - For extremely contaminated areas or frequent wash-down

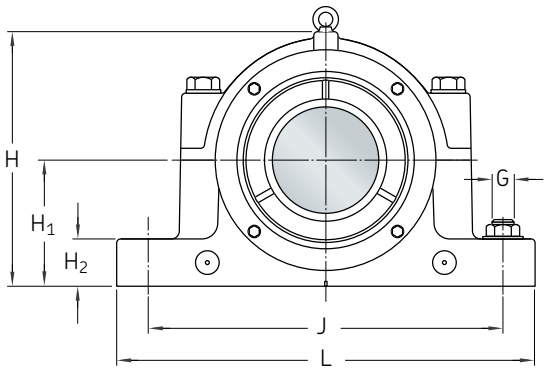
OPTIMUM BEARING PERFORMANCE

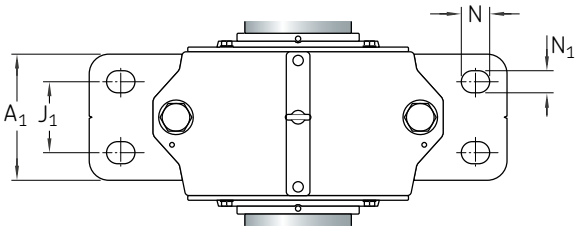
Small SDVD 5 series plummer block housings for bearings on an adapter sleeve
d_a 60-140 mm



Shaft diameter	Housing	Appropriate parts							
		Bearing [1]	Adapter sleeve	Locating ring [2]	Seals	End cover	Width incl. seals		
d_a							A_2	A_3	A_4
mm	–	–					mm		
60	**SDVD 513**	BS2-2213-2RSK/VT143 22213 EK	H 2313 E/V21 H 313	FRB 6.5/120 FRB 10/120	TKV 513	ETV 132/118/4	75	84.5	76
65	**SDVD 515**	BS2-2215-2RSK/VT143 22215 EK	H 315 E H 315	FRB 9/130 FRB 12.5/130	TKV 515	ETV 140/125/4 ETV	75	84.5	76
70	**SDVD 516**	BS2-2216-2RSK/VT143 22216 EK	H 316 E H 316	FRB 9/140 FRB 12.5/140	TKV 516	146/134/4	77	90	82
75	**SDVD 517**	BS2-2217-2RSK / V T143 22217 EK	H 317 E H 317	FRB 8.5/150 FRB 12.5/150	TKV 517	ETV 160/144/4	77	90	82
80	**SDVD 518**	BS2-2218-2RSK/VT143 22218 EK	H 2318 E/L73 H 318	FRB 8.5/160 FRB 12.5/160	TKV 518	ETV 168/152/4 ETV	79	92	84
90	**SDVD 520**	BS2-2220-2RS5K/VT143 22220 EK	H 2320 E/V21 H 320	FRB 7.5/180 FRB 12/180	TKV 520	194/176/4	78	97	90
100	**SDVD 522**	BS2-2222-2RS5K/VT143 22222 EK	H 2322 E/V21 H 322	FRB 8.5/200 FRB 13.5/200	TKV 522	ETV 208/188/4 ETV	88.5	108	100
110	**SDVD 524**	BS2-2224-2RS5K/VT143 22224 EK	H 2324 E/V21 H 3124	FRB 8.5/215 FRB 14/215	TKV 524	226/206/4	94	115	105
115	**SDVD 526**	BS2-2226-2CS5K/VT143 22226 EK	H 2326 L/V21 H 3126	FRB 7.5/230 FRB 13/230	TKV 526	ETV 236/216/4	99.5	114.5	105
125	**SDVD 528**	22228-2CS5K/VT143 22228 CCK/W33	H 3128 L H 3128	FRB 10/250 FRB 10/250	TKV 528	ETV 260/240/4	101.5	114.5	105
135	**SDVD 530**	22230-2CS5K/VT143 22230 CCK/W33	H 3130 H 3130	FRB 10/270 FRB 10/270	TKV 530	ETV 280/256/4	106.5	120.5	110
140	**SDVD 532**	22232-2CS5K/VT143 22232 CCK/W33	OH 3132 H H 3132	FRB 10/290 FRB 10/290	TKV 532	ETV 300/280/4	108	124	115

[1] Optional sealed & unsealed spherical roller bearing designations, with corresponding adapter sleeve designations for each.
[2] 2 locating rings are required for locating bearing only.

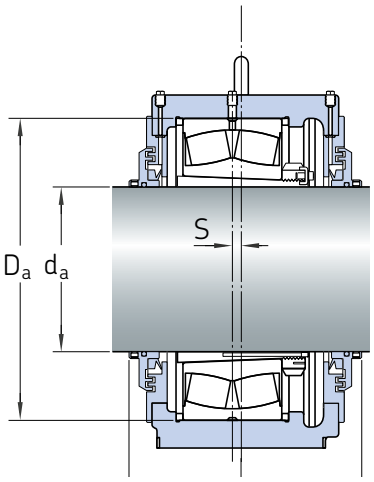


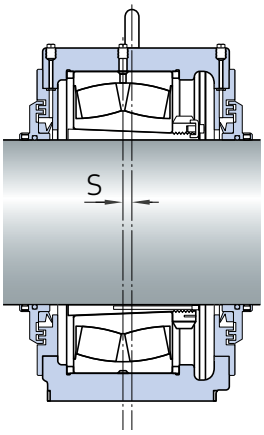


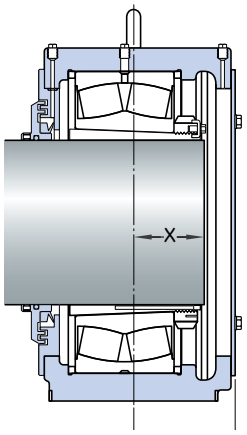
Shaft diameter														Eye bolt	Mass	
d_a	A_1	D_a	H	H_1	H_2	J	J_1	L	N	N_1	G	X_{min}	X_{max}	BSP Thread	Housing [3]	Assembly [4]
mm														-	kg	
60	80	120	157	80	30	230	40	280	24	16	M12	36 33	50 50	-	11	13
65	80	130	157	80	30	230	40	280	24	16	M12	38 35	50 50	-	10	12.5
70	90	140	185	95	32	260	50	320	28	20	M16	41 38	55 55	-	15	18
75	90	150	185	95	32	260	50	320	28	20	M16	44 40	55 55	-	14	18
80	100	160	195	100	35	290	50	345	28	20	M16	49 45	57 57	-	16	20.5
90	110	180	218	112	40	320	60	380	28	20	M16	56 51	62 62	1/4"	22	28.5
100	120	200	240	125	45	350	70	410	28	20	M16	61 56	69 69	1/4"	27	36
110	120	215	270	140	45	350	70	410	28	20	M16	66 60	76 76	1/4"	31	42
115	130	230	290	150	50	380	70	445	32	24	M20	69 63	76 76	1/4"	39	53
125	150	250	302	150	50	420	80	500	36	28	M24	70 68	76 76	1/4"	48	65.5
135	160	270	323	160	60	450	90	530	36	28	M24	74 74	82 82	1/4"	54	77
140	160	290	344	170	60	470	90	550	36	28	M24	80 80	85 85	1/4"	59	88.5

[3] Housing + seals (Max).
[4] Assembly mass also includes bearing, sleeves and 2 housing seals.

Large SDVD 31 series plummer block housings for bearings on an adapter sleeve
d_a 150-300 mm

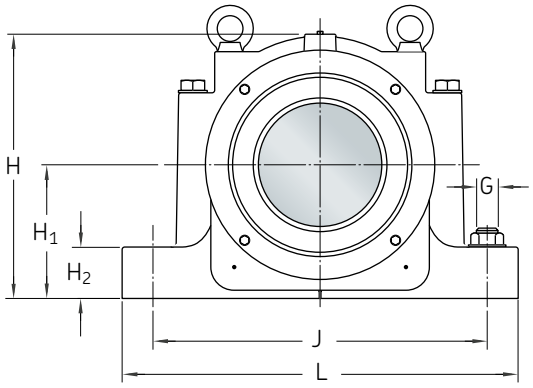


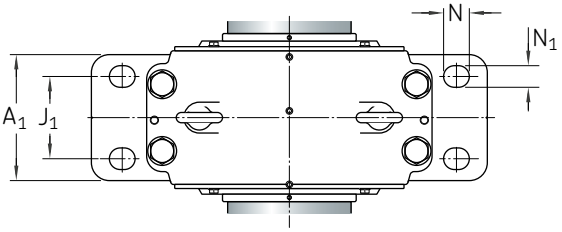




Shaft diameter	Housing	Appropriate parts							
		Bearing [1]	Adapter sleeve [2]	Locating ring [3]	Seals	End cover	Width incl. seals		
d_a							A_2	A_3	A_4
mm	–	–					mm		
150	**SDVD 3134**	23134-2CS5K/VT143 23134 CCK/W33	OH 3134 HE OH 3134 H	FRB 10/280	TKV 34	ETV 290/265/4	133	133	115
160	**SDVD 3136**	23136-2CS5K/VT143 23136 CCK/W33	OH 3136 HL OH 3136 H	FRB 10/300	TKV 36	ETV 310/285/4	138	138	120
170	**SDVD 3138**	23138-2CS5K/VT143 23138 CCK/W33	OH 3138 H OH 3138 H	FRB 10/320	TKV 38	ETV 330/305/4	138	146	130
180	**SDVD 3140**	23140-2CS5K/VT143 23140 CCK/W33	OH 3140 H OH 3140 H	FRB 10/340	TKV 40	ETV 346/315/4	142	152	135
200	**SDVD 3144**	23144-2CS5K/VT143 23144 CCK/W33	OH 3144 HTL OH 3144 H	FRB 10/370	TKV 44	ETV 376/345/4	151	161	140
220	**SDVD 3148**	23148-2CS5K/VT143 23148 CCK/W33	OH 3148 HTL OH 3148 H	FRB 10/400	TKV 48	ETV 406/375/4	155	170	150
240	**SDVD 3152**	23152-2CS5K/VT143 23152 CCK/W33	OH 3152 HTL OH 3152 H	FRB 10/440	TKV 52	ETV 446/415/4	165	176	160
260	**SDVD 3156**	23156-2CS5K/VT143 23156 CCK/W33	OH 3156 HTL OH 3156 H	FRB 10/460	TKV 56	ETV 466/435/4	173	185	165
280	**SDVD 3160**	23160-2CS5K/VT143 23160 CCK/W33	OH 3160 HE OH 3160 H	FRB 10/500	TKV 60	ETV 506/475/4	183	189	170
300	**SDVD 3164**	23164-2CS5K/VT143 23164 CCK/W33	OH 3164 H OH 3164 H	FRB 10/540	TKV 64	ETV 546/515/4	191	201	180

[1] Optional sealed & unsealed spherical roller bearing designations, with corresponding adapter sleeve designations for each.
[2] Adapter sleeves listed are suitable for oil injection, standard sleeves without provision for oil injection can also be used.
[3] 2 locating rings are required for locating bearing only.





Shaft diameter															Eye bolt	Mass	
d_a	A_1	D_a	H	H_1	H_2	J	J_1	L	N	N_1	G	S	X_{min}	X_{max}	acc. To DIN 580	Housing[4]	Assembly[5]
mm															-	kg	
150	174	280	335	170	70	430	100	510	34	28	M24	14	64	85	M16	72	102
160	184	300	352	180	75	450	110	530	34	28	M24	15	68	91	M16	81	116
170	200	320	375	190	80	480	120	560	34	28	M24	10	78	99	M20	99	114
180	206	340	410	210	85	510	130	610	42	35	M30	10	83	105	M20	121	175
200	220	370	435	220	90	540	140	640	42	35	M30	12	88	111	M20	136	203
220	230	400	475	240	95	600	150	700	42	35	M30	12	94	121	M20	169	249
240	245	440	514	260	100	650	160	770	50	42	M36	13	103	127	M24	205	310
260	250	460	550	280	105	670	160	790	50	42	M36	16	103	133	M24	234	348
280	288	500	590	300	110	710	190	830	50	42	M36	22	116	138	M24	284	434
300	300	540	625	320	115	750	200	880	50	42	M36	23	126	150	M24	322	507

[4] Housing + seals (Max).
[5] Assembly mass includes housing body, seals, bearing and sleeve.

Optional protective shrouds

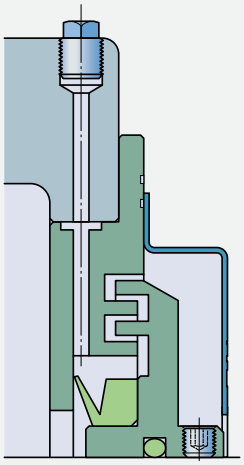
In applications with extreme levels of contamination, customers might wish to add extra protection to further reduce the risk of fluids or dust entering the seal labyrinth. Such situations could typically include installations with frequent high-pressure cleaning or continuous impact by material cascading from above.

On request, SKF can supply protective shrouds which are simply installed over the seal assembly, using 2 of the seal carrier screws. The shrouds are constructed from sheet steel and powder-coated.

The shrouds can rotate +/- 90 degrees, so they will provide protection for housings in various orientations.

Shrouds can be installed from new, retrofitted, or existing applications in-situ. Overall dimensions of the housing assembly are not affected.

SDVD housing with shrouds — Figure 3



SDVD 5 series housing with shrouds — Figure 4.1

SDVD 5 series housing vertically mounted with shrouds — Figure 4.2

SDVD 31 series housing with shrouds — Figure 5.1

SDVD 31 series housing vertically mounted with shrouds — Figure 5.2

Shrouds ordering table

Table 1

Housing	Shaft diameter	Shroud designation
-	mm	
SDVD 513	60	1944804/13
SDVD 515	65	1944804/15
SDVD 516	70	1944804/16
SDVD 517	75	1944804/17
SDVD 518	80	1944804/18
SDVD 520	90	1944804/20
SDVD 522	100	1944804/22
SDVD 524	110	1944804/24
SDVD 526	115	1944804/26
SDVD 528	125	1944804/28
SDVD 530	135	1944804/30
SDVD 532	140	1944804/32
SDVD 3134	150	1944715/34
SDVD 3136	160	1944715/36
SDVD 3138	170	1944715/38
SDVD 3140	180	1944715/40
SDVD 3144	200	1944715/44
SDVD 3148	220	1944715/48
SDVD 3152	240	1944715/52
SDVD 3156	260	1944715/56
SDVD 3160	280	1944715/60
SDVD 3164	300	1944715/64

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