SKF high temperature bearings

For operating temperatures up to 350 °C *(660 °F)*



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Reduce maintenance. Run longer. Run cleaner.

Bearings operating in high temperature applications can be unreliable due to premature failure. The result is high costs and time wasted on frequent bearing replacements. SKF offers a solution with an assortment of bearings designed to reduce maintenance, run longer and cleaner in high temperature applications.

SKF high temperature bearings run trouble-free

SKF high temperature bearings incorporate a graphite-based lubrication that continuously lubricate the bearing, eliminating the use of grease and oil. Ideal for applications in industries such as metals and food & beverage, these bearings are designed for trouble-free operation at temperatures up to 350 °C *(660 °F)*.

SKF high temperature bearings provide:

- Reduced total operating cost through increased bearing service life
- Relubrication-free operation
- Reduced machine complexity
- Reduced environmental impact
- Excellent performance in hot conditions, dry environments and applications with low rotational speeds



Common issues in high temperature applications

Bearings operating in high temperature applications may be impacted by a number of factors that can reduce bearing service life. Common issues include:

Inadequate lubrication

At high temperatures, lubricating grease or oil becomes very thin. Oil that is too thin, in combination with low rotational speeds, results in metal-to-metal contact in the bearing. This will cause wear, leading to noise and excessive play (→ **fig. 1**).

Short grease life

Grease ages rapidly at high temperatures, resulting in the need for very frequent relubrication. This is time consuming and costly and is a task that can be forgotten or even neglected. Frequent relubrication also creates the potential to over-fill the bearing, increasing the risk of excess grease contaminating the process and possibly catching fire. Additionally, old grease left in the bearings can carbonize at high temperatures and block the bearings (→ **fig. 2**).

Loss of internal bearing clearance

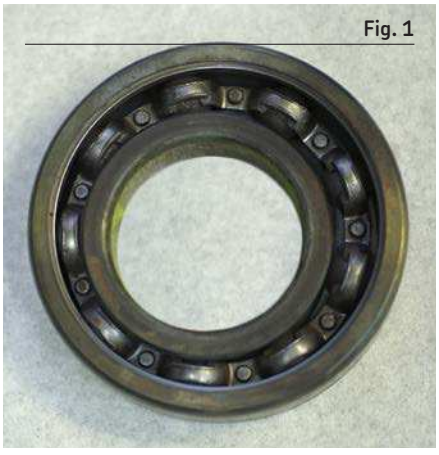
When temperatures rise above the bearing stabilization temperature, thermal expansion and material structural changes will occur in the bearing. This can lead to an uncontrolled loss of internal radial clearance, and ultimately seized bearings (→ **fig. 3**).

The SKF high temperature bearing solution

SKF high temperature bearings are designed for challenging operating conditions, with variants capable of performing at temperatures as high as 350 °C *(660 °F)*. These bearings incorporate graphite-based lubrication which can lubricate at high temperatures and low speeds, eliminating the risk of metal-to-metal contact. Unlike grease and oil, graphite does not age and will not lose its lubricating properties at temperatures up to 350 °C *(660 °F)*. This eliminates the need to relubricate SKF high temperature bearings. Additionally, these bearings are designed with a special radial clearance specified to maintain the required radial clearance at high operating temperatures. This avoids bearing seizure and enables a long service life.

The SKF advantage: optimum performance, efficiency and savings

SKF high temperature bearings are designed to deliver increased reliability, reduced complexity, and decreased environmental impact. Because high temperature bearings correspond to the ISO boundary dimensions for standard bearings, production efficiencies and cost savings can be realized with a simple change to SKF high temperature bearings.



Inadequate lubrication cause wear which can be recognized by noise and excessive play



Grease can carbonize and block the bearing at high operating temperatures



Loss of internal radial clearance leading to a seized bearing

Customer benefits

Increased reliability, reduced maintenance

By eliminating temperature related bearing failures, SKF high temperature bearings improve machine uptime, output and overall reliability. The SKF solution also eliminates the need to frequently relubricate bearings operating at high temperatures. This provides greater peace of mind, while enhancing operational efficiencies and cost savings.

Reduced complexity

Because SKF high temperature bearings are designed for relubrication-free operation at temperatures up to 350 °C *(660 °F)*, manual and automatic lubrication systems are eliminated along with their related costs and issues. Complex cooling systems used to reduce bearing operating temperatures may also be unnecessary.

Reduced environmental impact

Global factors

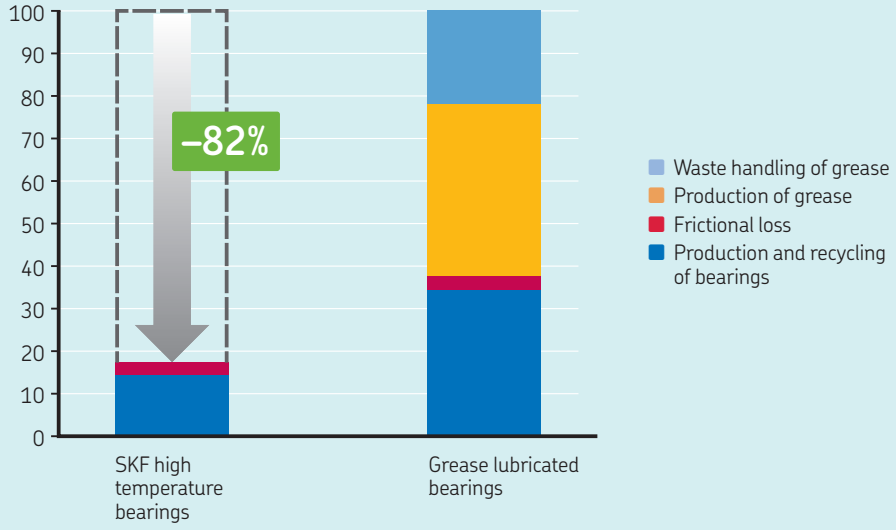
These products are designed to reduce environmental impact and contribute to sustainability efforts (→ **diagram 1**).

Workplace and process safety

With grease removed from the process environment, relubrication procedures in potentially dangerous areas of the operation can be avoided. Slippery surfaces from grease leakage and the risk of excess grease catching fire are eliminated. SKF high temperature bearings also contribute to food safety, because there is no risk of process lines and products being contaminated by grease.

Diagram 1

SKF high temperature bearings reduce CO2-emissions in a cooling bed for steel plates



Environmental impact of SKF high temperature bearings compared to grease lubricated bearings

Proven performance across industries

SKF high temperature bearings provide solutions that are proven in a number of different applications across a variety of industries. Even if the design and purpose of the bearing applications differ greatly, they all share common operating conditions that are ideal for graphite lubrication. Examples of successful installations are shown on the next few pages.

Cooling bed for steel plates

In hot rolling mills, extremely large cooling beds accumulate and allow steel plates to cool. They use thousands of bearings, operating in intense heat standing still or rotating very slowly. A customer operating this application was using grease lubricated deep groove ball bearings with C4 radial clearance.

Customer issues

The large number of bearings required large amounts of grease, making relubrication costly, difficult and time consuming.

Rollers that would not rotate due to seized bearings created scratches on the steel plates. Replacing failed bearings was causing costly downtime.



A large cooling bed for steel plates. Each wheel is supported by four high temperature bearings.

Customer case

Grease-lubricated, deep groove ball bearings were replaced with SKF high temperature bearings. A total of 5 000 SKF bearings were installed. Performance improvements were immediately realized, including:

- Bearing service life increased from six months to more than six years
- Return on investment achieved in eight months
- Savings realized through eliminating grease purchase and waste handling costs
- Reduced maintenance time and costs
- Improved product quality (scratch marks eliminated)
- Reduced bearing related CO_2 emissions by 82%



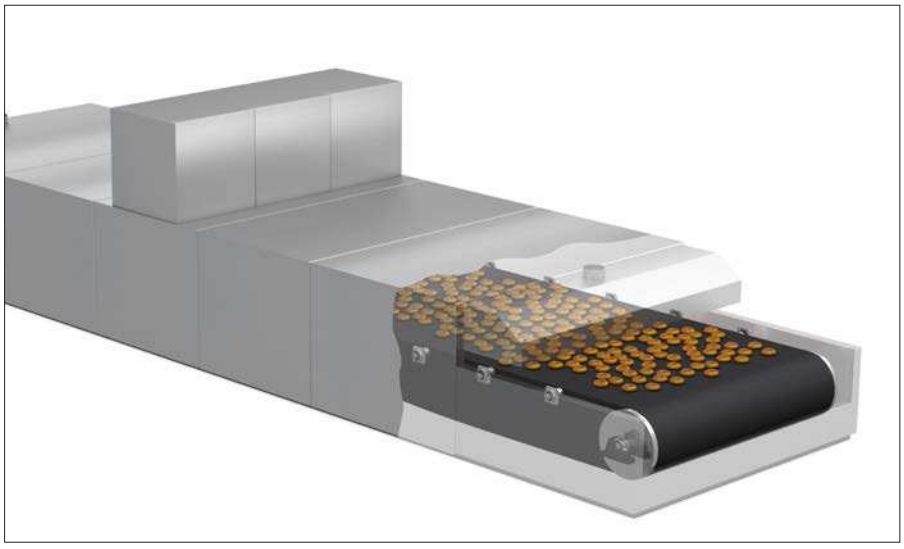
SKF 6212-2Z/VA228 high temperature bearings are an outstanding solution for cooling beds.

Continuous baking ovens

Continuous baking ovens are used by large-volume industrial bakeries. Requirements for throughput and reliability are very high. Bearings rotate slowly and are exposed to high temperatures. A customer was using grease-lubricated ball bearing units in a continuous baking oven.

Customer issues

High operating temperatures caused inadequate lubrication, increased wear in the bearings, poor reliability, unplanned stops and ultimately failure. Frequent relubrication using expensive high temperature grease required costly maintenance, while used grease ejected from the bearings created a risk of food contamination and worker safety issues.

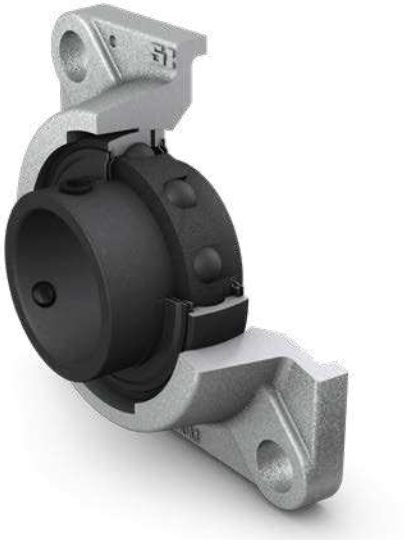


Continuous baking oven using high temperature ball bearing units to support the belt.

Customer case

The grease-lubricated bearing units were replaced with SKF high temperature ball bearing units, resulting in a number of performance and productivity enhancements, including:

- Bearing service life extended from 6 to 36 months
- Return on investment achieved in less than eight months
- SKF solution is NSF H1 certified
- High temperature bearings enabled higher process temperatures resulting in higher output
- Significantly improved reliability
- Maintenance costs reduced
- Food and worker safety improved due to the elimination of grease



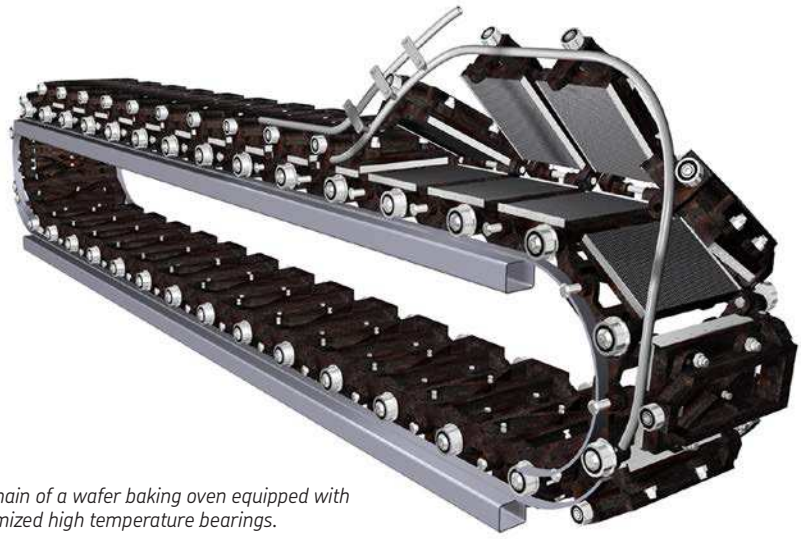
SKF high temperature ball bearing units FY 25 TF/ VA228 can enable higher output and reduced costs in food and beverage operations.

Wafer baking ovens

Producers of confectionary products use fully automated wafer baking ovens for high-volume production. A food and beverage manufacturer running this process was using deep groove ball bearings lubricated with high temperature grease.

Customer issues

Bearing relubrication was needed every 16 weeks, requiring costly planned maintenance. Grease leakage impacted food safety. Output was limited by the oven temperature restrictions of grease-lubricated bearings.



The chain of a wafer baking oven equipped with customized high temperature bearings.



SKF high temperature flanged carrier wheel units and smaller top roller units without a flange offer relubrication-free performance and reliability in automatic wafer baking ovens.
BB1-5098 B (top roller)
BB1-5067 B (carrier wheel)

Customer case

SKF high temperature wafer units were installed. These bearings incorporate graphite-based lubrication that continuously lubricates the bearing. Cost effectiveness and productivity were improved through benefits including:

- The relubrication-free wafer units ran for 5 years 24/7
- Eliminated costs for high temperature grease
- Eliminated 150 hours of labour annually
- 26 hours of planned downtime every 16 weeks was eliminated, increasing productivity through reduced maintenance
- Increased output, as graphite lubrication allows for higher process temperature
- Food and worker safety improved, due to eliminated consumption of grease

Paint lines

Paint lines are conveyor systems that transport parts as they are painted and dried. For one customer, the bearing operating temperature in the drying section was up to 200 °C *(390 °F)*. Deep groove ball bearings lubricated with high temperature grease needed frequent relubrication.

Customer issues

Painted car chassis frequently needed to be reworked due to paint damage caused by lubricant leakage from the bearings. Grease could stain the drying paint, an issue made worse when water-based paints were used. The high temperature greases used were not PWIS-free (Paint-Wetting Impairment Substances). Damage to the paint on chassis parts caused production stops.



Paint line conveyors are supported by wheels equipped with graphite lubricated bearings.

Customer case

The grease-lubricated bearings were replaced with SKF high temperature bearings. Quality and productivity in the paint line was significantly improved, with results including:

- Reduction in the number of chassis needing rework
- Significant increase in paint line efficiency
- Reduced downtime

SKF high temperature bearings are available in versions that apply to common PWIS standards.



SKF 6205-2Z/VA292 high temperature bearings offer a PWIS-free solution for paint-line drying processes.

Assortment

SKF offers a wide assortment of high temperature bearings and units according to ISO standards and also an assortment of customized high temperature bearings.

Selection of an appropriate high temperature bearing is based on the bearing type and the operating conditions (primarily the temperature and speed) of the machinery.

The SKF basic assortment of high temperature bearings and bearing units corresponding to ISO standards includes:

- Deep groove ball bearings
- Insert bearings
- Ball bearing units

The assortment includes variants that contain food-grade solid lubricants registered by NSF as category H1 (lubricant acceptable with incidental food contact for use in and around food processing areas).

In paint line applications, it is critical that the paint quality of the end product is not impaired by contamination. To address this need for high temperature paint lines, SKF offers a high temperature bearing variant VA292 that has the same bearing characteristics as version VA228 (→ **table 1**, **page 12**) but, in addition, comply with common PWIS standards (Paint Wetting Impairment Substance).

Customized high temperature bearings

In addition to high temperature bearings corresponding to ISO standards, SKF offers an assortment of customized high temperature bearings.

These bearings are customized for use in equipment such as automatic wafer baking ovens in the food and beverage industry, in industrial furnaces and in chains like customized cam rollers. For additional information, contact SKF.



Deep groove ball bearing



Cam roller



Ball bearing unit

Ideal operating conditions for SKF high temperature bearings

SKF high temperature bearings are designed to provide solutions to common issues in high temperature applications. In addition to operations involving high temperature, it is important to consider environmental conditions in the process area and the rotational speed of the shaft.

SKF high temperature bearings are an excellent choice for applications operating in hot environments with dry conditions and low rotational speeds. The hot, dry and slow criteria can be used as a rule of thumb for evaluating the use of graphite-lubricated bearings.



Hot:
Hot refers to operating temperatures up to 350 °C (660 °F) where grease-lubricated bearings often have a short service life. SKF high temperature bearings offer exceptional performance in positions affected by high operating temperatures.



Dry:
Due to very limited protection against corrosion, graphite-lubricated bearings must be kept dry.



Slow:
In slowly rotating applications running at high temperatures, oil and grease lubricants become too thin to generate a lubrication film of sufficient thickness to prevent metal-to-metal contact. SKF graphite-lubricated bearings are designed to handle these conditions.

Deep groove ball bearings for high temperature applications

The SKF range of deep groove ball bearings for high temperature applications provides solutions for various combinations of operating temperature and speed. All variants are lubricated for the life of the bearing, except for open VA201 bearings (that is, without integral shields) which require relubrication.

VA228 – SKF highest performance at temperatures up to 350 °C *(660 °F)*

VA228 is an excellent choice for machinery operating with low speeds or oscillating movements in combination with very high operating temperatures. This bearing offers outstanding performance at temperatures up to 350 °C *(660 °F)* through the combination of the solid graphite cage, an adjusted high temperature bearing radial internal clearance and integral shields.

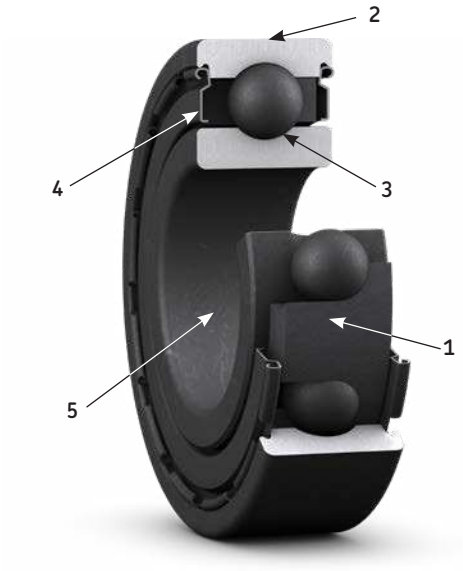
VA208 – Improved performance at temperatures up to 350 °C *(660 °F)*

The VA208 bearing is lubricated by a segmented graphite cage. The large amount of lubricating graphite gives a long service life at temperatures up to 350 °C *(660 °F)*.

VA201 – Basic performance at temperatures up to 250 °C *(480 °F)*

The VA201 bearing is lubricated with a polyalkylene glycol/graphite mixture suitable for temperatures up to 250 °C *(480 °F)*. Version VA201 is an open bearing (without shields) while the 2Z/VA201 has an integral shield on both sides. Both versions are supplied pre-filled with lubricant. VA201 can be re-lubricated whilst-2Z/ VA201 is lubricated for the life of the bearing. Depending on the speed and operating temperature, a special running-in procedure might be required (→ *Lubrication and running in*, **page 15**).

Features and benefits of high temperature deep groove ball bearings



1 no need for relubrication[1)]
– the bearings are lubricated with graphite-based high temperature lubricants and are lubricated for the life of the bearing

2 simple replacement
– the boundary dimensions are the same as those of standard bearings

3 operating temperature up to 350 °C *(660 °F)*
– the internal radial clearance and the lubricant are optimized for operation at high temperatures

4 protection against contamination
– shields (designation suffix 2Z) protect the bearing

5 improved running in
– the entire bearing surface is manganese phosphate coated

[1)] All variants, except for VA201 open bearings (that is, without integrated shields), are lubricated for the life of the bearing

Table 1

Characteristics of high temperature variants for deep groove ball bearings

Characteristic	Variant VA201	VA208	VA228
Lubrication type	Polyalkylene glycol/ graphite mixture	Segmented cage made of graphite	Coronet cage made of graphite
Phosphated rings, rolling elements and cages	yes	yes	yes
NSF H1 food grade	no	yes	yes
Shields (designation suffix 2Z)	yes / no (open bearing)	yes	yes
Relubrication free	yes / no (open bearing)	yes	yes
Maximum operating temperature	250 °C *(480 °F)*	350 °C *(660 °F)*	350 °C *(660 °F)*
Limiting speed [r/min][1)]	4 500/d_m	4 500/d_m	9 000/d_m
Running in required	Yes	No	No

[1)] d_m = bearing mean diameter = 0,5 (d + D). For outer ring rotation, use d_m = D.

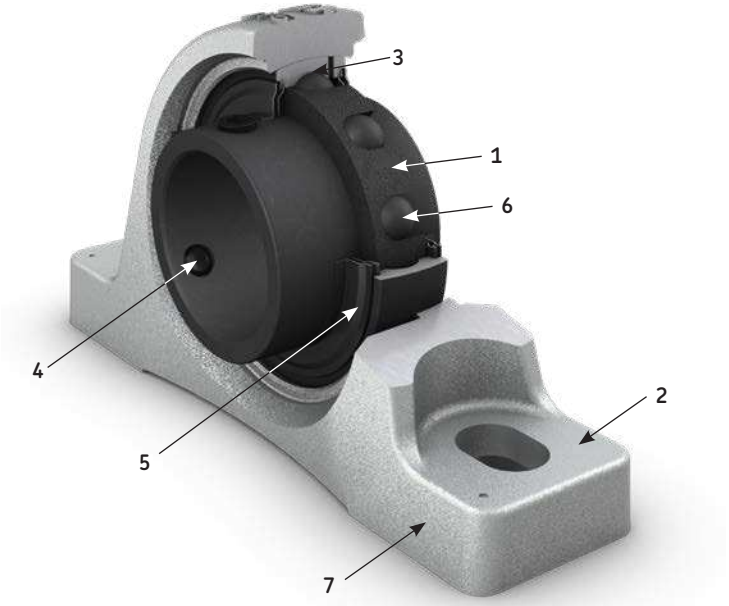
Insert bearings and ball bearing units for high temperature applications

The SKF assortment of insert bearings and ball bearing units for high temperature applications, provides solutions for various temperature and speed combinations. Ball bearing units are available in three different designs in ISO standards. All variants are lubricated for the life of the bearing.



ISO standard designs

Features and benefits of high temperature ball bearing units



1 **No need for relubrication**
– the bearings are lubricated with graphite-based high temperature lubricants and, as such, are lubricated for the life of the bearing
2 **Simple replacement**
– the boundary dimensions are the same as those of standard bearings and units
3 **Operating temperature up to 350 °C *(660 °F)***
– the radial internal clearance and the lubricant are optimized for operation at high temperatures
4 **Simple mounting and dismounting**
– the grub (set) screws in the inner ring make mounting/dismounting easy
5 **Protection against contamination**
– shields and flingers (designation suffix 2F) protect the bearing
6 **Improved running in**
– the entire bearing surface is manganese phosphate coated
7 **No colour flaking**
– the housing is coated with a high temperature resistant coating



VA228 – SKF highest performance at temperatures up to 350 °C *(660 °F)*

VA228 is an excellent choice for machinery operating with low speeds or oscillating movements in combination with very high operating temperatures. This bearing offers outstanding performance at temperatures up to 350 °C *(660 °F)* through the combination of the solid graphite cage, an adjusted high temperature bearing radial internal clearance and integral shields and flingers.

VA201 – Basic performance at temperatures up to 250 °C *(480 °F)*

The VA201 bearing is lubricated with a polyalkylene glycol/graphite mixture suitable for temperatures up to 250 °C *(480 °F)* . This bearing is pre-filled and lubricated for the life of the bearing . A special running-in procedure is needed for lower temperature applications (→ *Lubrication and running in*, **page 15**).

Table 2

Characteristics of high temperature variants for insert bearings and ball bearing units

Characteristic	Variant VA201	VA228
Lubrication type	Polyalkylene glycol/graphite mixture	Coronet cage made of graphite
Phosphated rings, rolling elements and cages	yes	yes
NSF H1 food grade	no	yes
Shields (suffix 2F)	yes	yes
Relubrication free	yes	yes
Maximum operating temperature	250 °C *(480 °F)*	350 °C *(660 °F)*
Limiting speed [r/min][1)]	4 500/d_m	9 000/d_m
Running in required	Yes	No

[1)] d_m = bearing mean diameter = 0,5 (d + D).

Lubrication and running in

Relubrication

All SKF high temperature deep groove ball bearings are lubricated for the life of the bearing, except for open VA201 bearings, which require relubrication.

The general recommendation for an open VA201 bearing is to investigate the quality of the lubricating paste in the bearing every six months. If there is no longer a film of dry lubricant on the raceways, indicated by a bright metallic shiny track, remove residues of the old lubricant with a solvent and, when dried, replenish the bearing with lubricating paste.

Apply the paste in a thin layer. The paste should be evenly distributed around the entire raceways of the bearing, which can be done using a brush of medium hardness. It is important to rotate the bearing when it has been replenished with paste. Any collars of excess paste should be removed.

Running in

Following installation or relubrication, VA201 bearings operating at bearing temperatures below 200 °C *(390 °F)*, while running at speeds below 25% of the limiting speed require running in.

Running in requires that the bearing be run at a temperature of at least 200 °C *(390 °F)* for a minimum of 48 hours.

Loads and selecting bearing size

The bearing size is selected based on the basic static load rating C_0. Basic static load ratings for bearings are listed in the product tables.

For an equivalent static bearing load P_0, the selected bearing must have a C_0 value ≥ the value of requisite basic static load rating C_{0req} specified in **table 3**.

NOTE: Table 3 is valid for high temperature deep groove ball bearing units and insert bearings only when
$P_0 = F_r$.

That is, when:

$F_a < 0{,}8\ F_r$

and

$F_a < 0{,}15\ C_0$

where
P_0 = equivalent static bearing load [kN]
F_a = axial load [kN]
F_r = radial load [kN]
C_0 = basic static load rating [kN]

Table 3

Requisite basic static load rating for applied equivalent static bearing load

Equivalent static bearing load P_0	**Requisite basic static load rating C_{0req} for operating temperatures up to**	
	250 °C *(480 °F)*	350 °C *(660 °F)*
kN	kN	
2	6	9
4	11	18
6	16	27
8	22	36
10	27	45
15	40	67
20	54	90
25	67	120
30	80	140
40	110	180
50	140	230
60	160	270
70	190	320
80	220	360
90	240	400
100	270	450
125	340	560
150	400	670
200	540	890
300	800	1 400
400	1 100	1 800
500	1 400	2 300
600	1 600	–

Design of bearing arrangements

Location of bearings

The selection of shaft and housing fits for high temperature deep groove ball bearings depends on the bearing operating condition and bearing size. An appropriate fit is needed to locate the shaft, provide satisfactory support, allow for thermal expansion and reach the stated maximum operating bearing temperature (→ **table 4**).

For moderate loads (0,035 C < P ≤ 0,05 C), the shaft seats for insert bearings should be machined to a h7Ⓔ tolerance. For light loads and low speeds, a h8Ⓔ shaft tolerance is sufficient.

All ISO tolerance classes are valid with the envelope requirement in accordance with ISO 14405-1.

Mounting

SKF high temperature insert bearings and ball bearing units have a clearance fit for the recommended shaft diameters. They can therefore be slid into position and secured with the grub (set) screws on the inner ring.

SKF high temperature bearings (except high temperature insert bearings and ball bearing units) should always be hot mounted to reduce the mounting force and the risk of cracking the graphite lubricant. Induction heater is the preferred choice to heat the bearing during mounting.

Submerging the SKF high temperature bearings in hot oil is not recommended since the oil remaining in the bearing might carbonize later during operation. Do not use impact mounting methods such as hammer or bearing fitters because the impacts can make the graphite lubricant crack.

Operating environment

Since all high temperature bearings are supplied without preservative oils and must be used without grease or oil lubrication, the anti-corrosion property of the bearings is limited. Therefore, the bearings should be used in a dry environment or with a proper sealing arrangement to keep the bearings dry.

The most common sealing alternatives for high temperature deep groove ball bearings incorporate integral or external shields or labyrinth seals. These arrangements have a rather low complexity and none of these arrangements are capable of keeping the bearing dry in a wet environment.

Sealing solutions

High temperature deep groove ball bearings can be protected from contaminants by either integral shields, external shields or a combination of both.

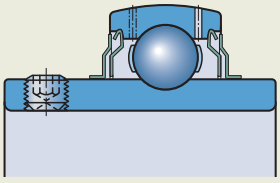
For high temperature bearings, metallic shields are the primary recommendation when a capping device with low complexity is required. Shields prevent the ingress of solid contaminants into the bearing. They are non-contact, generate almost no friction and do not wear. Due to the material and design, they are particularly well suited for high temperatures.

High temperature deep groove ball bearings with designation suffix 2Z have integrated shields, but the VA201 variant is also available as an open bearing (→ **fig. 2**). The shields on a 2Z/VA201 bearing enable the bearing to be filled with twice the amount of polyalkylene glycol/graphite lubricant that is used in an open VA201 bearing.

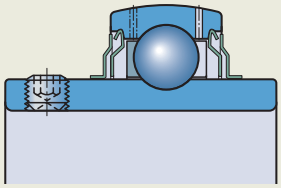
The capping device on high temperature insert bearings (designation suffix 2F) consists of a shield and a flinger that create a narrow gap labyrinth seal (→ **fig. 1**).

Fig.1

High temperature insert bearings with integrated shields and flingers (2F)



2F/VA201



2F/VA228

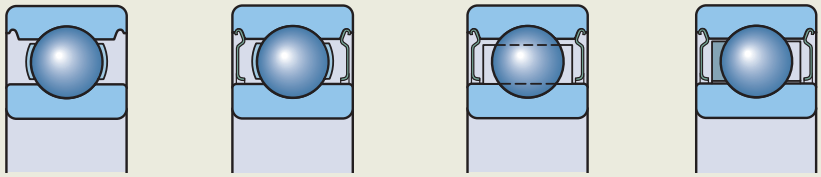
Table 4

Fits for high temperature ball bearings on solid steel shafts or in cast iron and steel housings

Conditions	Shaft diameter	Shaft tolerance	Housing tolerance
–	mm	–	–
Rotating inner ring load	all	k6Ⓔ	F7Ⓔ
Stationary inner ring load	all	g6Ⓔ	J7Ⓔ

Fig. 2

High temperature deep groove ball bearings and integrated shields (2Z)



VA201 | 2Z/VA201 | 2Z/VA208 | 2Z/VA228

In many cases, the integral shields are sufficient to keep contaminants out of the bearing. However, in some cases, the integrated shields are insufficient, and so additional external shields should be considered – either Nilos rings (→ **fig. 3**), SKF sealing washers (→ **fig. 4**) or custom made seals.

Thermal axial expansion of shaft

To accommodate thermal axial expansion of the shaft in ball bearing unit arrangements, the shaft on the non-locating side should be provided with either one, or two grooves located 120° apart, to engage with modified grub screws:

- Hexagon socket grub (set) screws with a dog point, in accordance with ISO 4028, but with a fine thread according to **table 5**. The grub screw should be secured by a nut and spring washer or star lock washer (→ **fig. 5**).
- Slotted pan head screws in accordance with ISO 1580, but with fine thread according to table 5, locked with a spring or star lock washer (→ **fig. 6**).

The screws and groove(s) accommodate changes in shaft length and prevent the shaft from turning independently of the bearing inner ring. The ends of the grub screws should be ground and the sliding surfaces in the shaft grooves coated with a lubricant paste suitable for the operating temperature.

Fig. 3

Sealing solution using Nilos rings

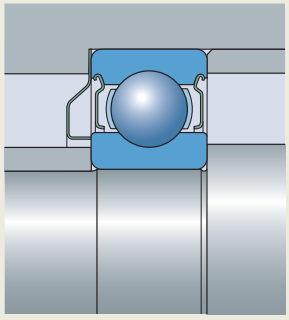
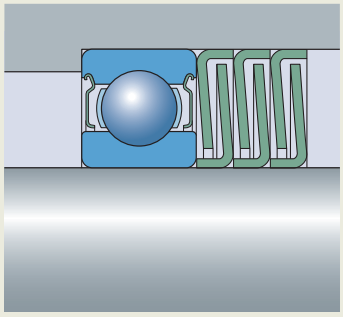


Fig. 4

Sealing solution using SKF sealing washers



Example showing bearing 6205-2Z/VA201 and triple sealing washers Z 205

Fig. 5

Hexagonal socket grub screw with a dog point secured by a nut and spring washer

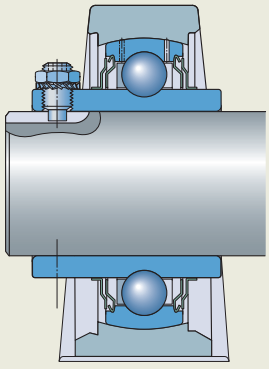


Fig. 6

Slotted pan head screw secured by a spring washer

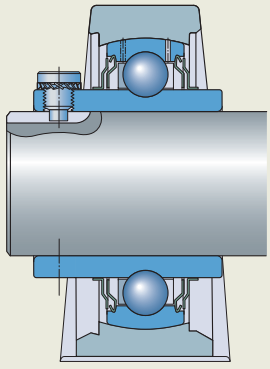


Table 5

Grub screw key sizes and recommended tightening torques

Bearing bore		Threaded holes	Hexagonal key size	Tightening torque
over	incl.			
mm/in.		–	mm/in.	Nm
For metric shaft				
–	**35**	M 6 x 0,75	3	4
35	**45**	M 8 x 1	4	6,5
45	**80**	M 10 x 1	5	16,5
For inch shaft				
–	**1 3/16**	1/4 – 28 UNF	1/8	4
1 3/16	**1 3/4**	5/16 – 24 UNF	5/32	6,5
1 3/4	**2 7/16**	3/8 – 24 UNF	3/16	16,5
2 7/16	**2 15/16**	7/16 – 20 UNF	7/32	28,5

Bearing data

	Deep groove ball bearings	Insert bearings	Ball bearing units
Dimension standards	Boundary dimensions: ISO 15 Series 10, 02, 03	Boundary dimensions: ISO 9628	Boundary dimensions: ISO 3228
Tolerances	Normal Values: ISO 492	Normal, except the bore and outside diameter (→ **table 6**) Values: ISO 492	Housing bore has an increased sphere diameter appropriate for high temperature applications.
	Due to the special surface treatment of the bearings and the insert bearing housings, there may be slight deviations from the standard tolerances. These deviations do not affect mounting or bearing operation.		
Radial internal clearance	Multiples of C5		
	Values (**table 7**) are valid for unmounted bearings under zero measuring load.	Values (**table 8**) are valid for unmounted bearings under zero measuring load.	
Misalignment	≈ 20 to 30 minutes of arc		≈ 20 to 30 minutes of arc Initial misalignment ≤ 5°
	The above values apply only when the bearings rotate slowly. The permissible angular misalignment between the inner and outer ring depends on the size and internal design of the bearing, radial internal clearance in operation and the forces and moments acting on the bearing. As a result, only approximate values are listed here. Any misalignment increases bearing noise and reduces bearing service life.		
Stabilization	120 °C *(250 °F)*	150 °C *(302 °F)*	
	The rings, rolling elements and cages of SKF high temperature bearings and housings of SKF ball bearing units undergo the same heat stabilization process as the relevant standard bearing. As a result, for higher operating temperatures, a certain amount of dimensional change is to be expected. For additional information, contact the SKF application engineering service.		

Table 6

Tolerances of insert bearings for high temperature applications

Nominal diameter d, D		**Bore diameter**[1] Deviation		**Outside diameter** Deviation	
over	incl.	high	low	high	low
mm		µm		µm	
18	**30**	+18	0	–	–
30	**50**	+21	0	0	–10
50	**80**	+24	0	0	–10
80	**120**	+28	0	0	–15

[1] Values in accordance with ISO 9628

Table 7

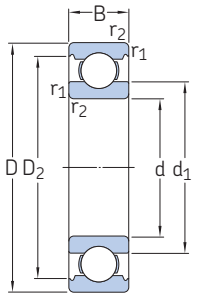
Radial internal clearance of deep groove ball bearings for high temperature applications

Bore diameter d		**Radial internal clearance** Multiples of C5	
over	incl.	min.	max.
mm		µm	
–	**10**	96	136
10	**18**	112	160
18	**24**	124	172
24	**30**	136	192
30	**40**	172	236
40	**50**	192	272
50	**65**	230	340
65	**80**	270	400
80	**100**	320	460
100	**120**	370	540

Table 8

Radial internal clearance of insert bearings for high temperature applications

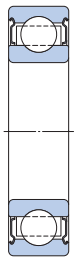
Bore diameter d		**Radial internal clearance**	
over	incl.	min.	max.
mm		µm	
6	**20**	070	094
20	**25**	076	104
25	**35**	094	126
35	**50**	102	142
50	**60**	124	174
60	**80**	150	210



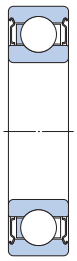
VA201 [1)]



2Z/VA201 [1)]



2Z/VA208

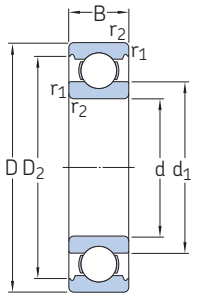


2Z/VA228

Principal dimensions						Basic static load ratings	Limiting speed	Limiting temperature		Mass	Designation
d	D	B	d_1 ≈	D_2 ≈	$r_{1,2}$ min	C_0		T max.			
mm						kN	r/min	°C	°F	kg	–
12	32	10	18,4	27,4	0,6	3,1	200	250	*480*	0,037	**6201/VA201**
	32	10	18,4	27,4	0,6	3,1	200	250	*480*	0,039	**6201-2Z/VA201**
	32	10	18,4	27,4	0,6	3,1	400	350	*660*	0,039	**6201-2Z/VA228**
15	35	11	21,7	30,4	0,6	3,75	180	250	*480*	0,045	**6202/VA201**
	35	11	21,7	30,4	0,6	3,75	180	250	*480*	0,048	**6202-2Z/VA201**
	35	11	21,7	30,4	0,6	3,75	360	350	*660*	0,048	**6202-2Z/VA228**
	42	13	23,7	36,3	1	5,4	320	350	*660*	0,086	**6302-2Z/VA228**
17	35	10	23	31,2	0,3	3,25	170	250	*480*	0,038	**6003/VA201**
	35	10	23	31,2	0,3	3,25	170	250	*480*	0,041	**6003-2Z/VA201**
	35	10	23	31,2	0,3	3,25	170	350	*660*	0,041	**6003-2Z/VA208**
	40	12	24,5	35	0,6	4,75	160	250	*480*	0,065	**6203/VA201**
	40	12	24,5	35	0,6	4,75	160	250	*480*	0,068	**6203-2Z/VA201**
	40	12	24,5	35	0,6	4,75	310	350	*660*	0,068	**6203-2Z/VA228**
	47	14	26,5	39,6	1	6,55	140	250	*480*	0,11	**6303/VA201**
	47	14	26,5	39,6	1	6,55	140	250	*480*	0,13	**6303-2Z/VA201**
	47	14	26,5	39,6	1	6,55	280	350	*660*	0,12	**6303-2Z/VA228**
20	42	12	27,2	37,2	0,6	5	140	250	*480*	0,067	**6004/VA201**
	42	12	27,2	37,2	0,6	5	140	250	*480*	0,071	**6004-2Z/VA201**
	42	12	27,2	37,2	0,6	5	140	350	*660*	0,071	**6004-2Z/VA208**
	47	14	28,8	40,6	1	6,55	130	250	*480*	0,1	**6204/VA201**
	47	14	28,8	40,6	1	6,55	130	250	*480*	0,11	**6204-2Z/VA201**
	47	14	28,8	40,6	1	6,55	260	350	*660*	0,11	**6204-2Z/VA228**
	52	15	30,3	44,8	1,1	7,8	120	250	*480*	0,14	**6304/VA201**
	52	15	30,3	44,8	1,1	7,8	120	250	*480*	0,15	**6304-2Z/VA201**
	52	15	30,3	44,8	1,1	7,8	120	350	*660*	0,15	**6304-2Z/VA208**
	52	15	30,3	44,8	1,1	7,8	250	350	*660*	0,15	**6304-2Z/VA228**
25	47	12	32	42,2	0,6	6,55	120	250	*480*	0,078	**6005/VA201**
	47	12	32	42,2	0,6	6,55	120	250	*480*	0,083	**6005-2Z/VA201**
	47	12	32	42,2	0,6	6,55	120	350	*660*	0,083	**6005-2Z/VA208**
	52	15	34,3	46,3	1	7,8	120	250	*480*	0,13	**6205/VA201**
	52	15	34,3	46,3	1	7,8	120	250	*480*	0,13	**6205-2Z/VA201**
	52	15	34,3	46,3	1	7,8	120	350	*660*	0,13	**6205-2Z/VA208**
	52	15	34,3	46,3	1	7,8	230	350	*660*	0,13	**6205-2Z/VA228**
	62	17	36,6	52,7	1,1	11,6	100	250	*480*	0,23	**6305/VA201**
	62	17	36,6	52,7	1,1	11,6	100	250	*480*	0,23	**6305-2Z/VA201**
	62	17	36,6	52,7	1,1	11,6	100	350	*660*	0,23	**6305-2Z/VA208**
	62	17	36,6	52,7	1,1	11,6	200	350	*660*	0,23	**6305-2Z/VA228**

[1)] Running in required

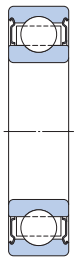
Principal dimensions						Basic static load ratings	Limiting speed	Limiting temperature		Mass	Designation
d	D	B	d_1 ≈	D_2 ≈	$r_{1,2}$ min	C_0		T max.			
mm						kN	r/min	°C	°F	kg	–
30	55	13	38,2	49	1	8,3	100	350	*660*	0,12	**6006-2Z/VA208**
	62	16	40,3	54,1	1	11,2	100	250	*480*	0,2	**6206/VA201**
	62	16	40,3	54,1	1	11,2	100	250	*480*	0,21	**6206-2Z/VA201**
	62	16	40,3	54,1	1	11,2	100	350	*660*	0,21	**6206-2Z/VA208**
	62	16	40,3	54,1	1	11,2	190	350	*660*	0,21	**6206-2Z/VA228**
	72	19	44,6	61,9	1,1	16	90	250	*480*	0,35	**6306/VA201**
	72	19	44,6	61,9	1,1	16	90	250	*480*	0,35	**6306-2Z/VA201**
	72	19	44,6	61,9	1,1	16	90	350	*660*	0,36	**6306-2Z/VA208**
	72	19	44,6	61,9	1,1	16	170	350	*660*	0,36	**6306-2Z/VA228**
35	72	17	46,9	62,7	1,1	15,3	80	250	*480*	0,29	**6207/VA201**
	72	17	46,9	62,7	1,1	15,3	80	250	*480*	0,3	**6207-2Z/VA201**
	72	17	46,9	62,7	1,1	15,3	80	350	*660*	0,3	**6207-2Z/VA208**
	72	17	46,9	62,7	1,1	15,3	160	350	*660*	0,3	**6207-2Z/VA228**
	80	21	49,5	69,2	1,5	19	80	250	*480*	0,46	**6307/VA201**
	80	21	49,5	69,2	1,5	19	80	250	*480*	0,47	**6307-2Z/VA201**
	80	21	49,5	69,2	1,5	19	80	350	*660*	0,48	**6307-2Z/VA208**
40	68	15	49,2	61,1	1	11	80	350	*660*	0,2	**6008-2Z/VA208**
	80	18	52,6	69,8	1,1	19	70	250	*480*	0,37	**6208/VA201**
	80	18	52,6	69,8	1,1	19	70	250	*480*	0,38	**6208-2Z/VA201**
	80	18	52,6	69,8	1,1	19	70	350	*660*	0,38	**6208-2Z/VA208**
	80	18	52,6	69,8	1,1	19	150	350	*660*	0,38	**6208-2Z/VA228**
	90	23	56,1	77,7	1,5	24	70	250	*480*	0,63	**6308/VA201**
	90	23	56,1	77,7	1,5	24	70	250	*480*	0,65	**6308-2Z/VA201**
	90	23	56,1	77,7	1,5	24	70	350	*660*	0,65	**6308-2Z/VA208**
	90	23	56,1	77,7	1,5	24	130	350	*660*	0,65	**6308-2Z/VA228**
45	85	19	57,6	75,2	1,1	21,6	70	250	*480*	0,42	**6209/VA201**
	85	19	57,6	75,2	1,1	21,6	70	250	*480*	0,43	**6209-2Z/VA201**
	85	19	57,6	75,2	1,1	21,6	70	350	*660*	0,43	**6209-2Z/VA208**
	85	19	57,6	75,2	1,1	21,6	130	350	*660*	0,43	**6209-2Z/VA228**
	100	25	62,1	86,7	1,5	31,5	60	250	*480*	0,84	**6309/VA201**
	100	25	62,1	86,7	1,5	31,5	60	350	*660*	0,87	**6309-2Z/VA208**
	100	25	62,1	86,7	1,5	31,5	60	250	*480*	0,85	**6309-2Z/VA201**
50	80	16	59,7	72,8	1	15,6	60	350	*660*	0,27	**6010-2Z/VA208**
	90	20	62,5	81,7	1,1	23,2	60	250	*480*	0,45	**6210/VA201**
	90	20	62,5	81,7	1,1	23,2	60	250	*480*	0,47	**6210-2Z/VA201**
	90	20	62,5	81,7	1,1	23,2	60	350	*660*	0,47	**6210-2Z/VA208**
	90	20	62,5	81,7	1,1	23,2	120	350	*660*	0,47	**6210-2Z/VA228**
	110	27	68,7	95,2	2	38	60	250	*480*	1,1	**6310/VA201**
	110	27	68,7	95,2	2	38	60	250	*480*	1,1	**6310-2Z/VA201**
	110	27	68,7	95,2	2	38	60	350	*660*	1,1	**6310-2Z/VA208**
	110	27	68,7	95,2	2	38	110	350	*660*	1,1	**6310-2Z/VA228**
55	90	18	66,3	81,5	1,1	21,2	60	350	*660*	0,4	**6011-2Z/VA208**
	100	21	69	89,4	1,5	29	60	250	*480*	0,61	**6211/VA201**
	100	21	69	89,4	1,5	29	60	250	*480*	0,64	**6211-2Z/VA201**
	100	21	69	89,4	1,5	29	60	350	*660*	0,64	**6211-2Z/VA208**
	100	21	69	89,4	1,5	29	110	350	*660*	0,64	**6211-2Z/VA228**
	120	29	75,3	104	2	45	50	250	*480*	1,35	**6311/VA201**
	120	29	75,3	104	2	45	50	250	*480*	1,4	**6311-2Z/VA201**
	120	29	75,3	104	2	45	50	350	*660*	1,4	**6311-2Z/VA208**
	120	29	75,3	104	2	45	100	350	*660*	1,4	**6311-2Z/VA228**



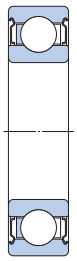
VA201 [1)]



2Z/VA201 [1)]



2Z/VA208



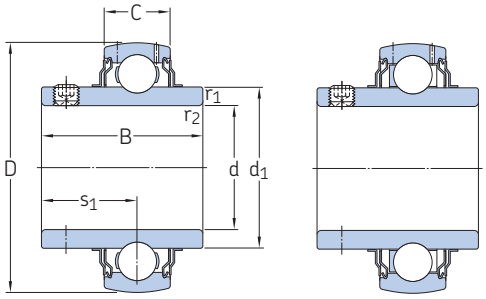
2Z/VA228

Principal dimensions						Basic static load ratings	Limiting speed	Limiting temperature		Mass	Designation
d	D	B	d_1 ≈	D_2 ≈	$r_{1,2}$ min	C_0		T max.			
mm						kN	r/min	°C	°F	kg	–
60	110	22	75,5	98	1,5	36	50	250	*480*	0,78	**6212/VA201**
	110	22	75,5	98	1,5	36	50	250	*480*	0,81	**6212-2Z/VA201**
	110	22	75,5	98	1,5	36	50	350	*660*	0,81	**6212-2Z/VA208**
	110	22	75,5	98	1,5	36	100	350	*660*	0,81	**6212-2Z/VA228**
	130	31	81,8	113	2,1	52	50	250	*480*	1,7	**6312/VA201**
	130	31	81,8	113	2,1	52	50	250	*480*	1,8	**6312-2Z/VA201**
	130	31	81,8	113	2,1	52	50	350	*660*	1,8	**6312-2Z/VA208**
	130	31	81,8	113	2,1	52	90	350	*660*	1,8	**6312-2Z/VA228**
65	120	23	83,3	106	1,5	40,5	50	250	*480*	1	**6213/VA201**
	120	23	83,3	106	1,5	40,5	50	250	*480*	1,05	**6213-2Z/VA201**
	120	23	83,3	106	1,5	40,5	50	350	*660*	1,05	**6213-2Z/VA208**
	120	23	83,3	106	1,5	40,5	90	350	*660*	1,05	**6213-2Z/VA228**
	140	33	88,3	122	2,1	60	40	250	*480*	2,1	**6313/VA201**
	140	33	88,3	122	2,1	60	40	250	*480*	2,2	**6313-2Z/VA201**
	140	33	88,3	122	2,1	60	40	350	*660*	2,2	**6313-2Z/VA208**
	140	33	88,3	122	2,1	60	80	350	*660*	2,2	**6313-2Z/VA228**
70	125	24	87	111	1,5	45	40	250	*480*	1,1	**6214/VA201**
	125	24	87	111	1,5	45	40	250	*480*	1,15	**6214-2Z/VA201**
	125	24	87	111	1,5	45	40	350	*660*	1,15	**6214-2Z/VA208**
	125	24	87	111	1,5	45	90	350	*660*	1,15	**6214-2Z/VA228**
	150	35	94,9	130	2,1	68	40	250	*480*	2,55	**6314/VA201**
	150	35	94,9	130	2,1	68	40	250	*480*	2,65	**6314-2Z/VA201**
	150	35	94,9	130	2,1	68	40	350	*660*	2,65	**6314-2Z/VA208**
75	130	25	92	117	1,5	49	40	250	*480*	1,2	**6215/VA201**
	130	25	92	117	1,5	49	40	250	*480*	1,25	**6215-2Z/VA201**
	130	25	92	117	1,5	49	40	350	*660*	1,25	**6215-2Z/VA208**
	130	25	92	117	1,5	49	80	350	*660*	1,25	**6215-2Z/VA228**
	160	37	101	139	2,1	76,5	40	250	*480*	3,05	**6315/VA201**
	160	37	101	139	2,1	76,5	40	250	*480*	3,15	**6315-2Z/VA201**
	160	37	101	139	2,1	76,5	40	350	*660*	3,15	**6315-2Z/VA208**
80	140	26	101	127	2	55	40	250	*480*	1,55	**6216-2Z/VA201**
	140	26	101	127	2	55	40	350	*660*	1,55	**6216-2Z/VA208**
	170	39	108	147	2,1	86,5	30	350	*660*	3,75	**6316-2Z/VA208**
85	150	28	106	135	2	64	40	250	*480*	1,8	**6217/VA201**
	150	28	106	135	2	64	40	250	*480*		**6217-2Z/VA201**
	150	28	106	135	2	64	40	350	*660*	1,9	**6217-2Z/VA208**

[1)] Running in required

Principal dimensions						Basic static load ratings	Limiting speed	Limiting temperature		Mass	Designation
d	D	B	d_1 ≈	D_2 ≈	$r_{1,2}$ min	C_0		T max.			
mm						kN	r/min	°C	*°F*	kg	–
90	160	30	112	143	2	73,5	70	350	*660*	2,3	**6218-2Z/VA228**
95	170	32	118	152	2,1	81,5	30	250	*480*	2,6	**6219/VA201**
	170	32	118	152	2,1	81,5	30	250	*480*	2,7	**6219-2Z/VA201**
	170	32	118	152	2,1	81,5	60	350	*660*	2,7	**6219-2Z/VA228**
100	150	24	115	139	1,5	54	30	350	*660*	1,35	**6020-2Z/VA208**
	180	34	124	160	2,1	93	30	250	*480*	3,15	**6220/VA201**
	180	34	124	160	2,1	93	30	250	*480*	3,25	**6220-2Z/VA201**
	180	34	124	160	2,1	93	30	350	*660*	3,25	**6220-2Z/VA208**
	180	34	124	160	2,1	93	60	350	*660*	3,25	**6220-2Z/VA228**
110	170	28	129	156	2	73,5	30	350	*660*	2,05	**6022-2Z/VA208**
120	180	28	139	166	2	80	30	350	*660*	2,2	**6024-2Z/VA208**

Insert bearings for high temperature applications, metric shafts
d **20 – 60** mm



VA201 [1)]

VA228

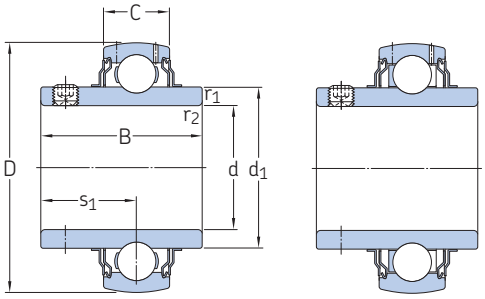
Principal dimensions							Basic load ratings dynamic	static	Limiting speed	Limiting temperature		Mass	Designation
d	D	B	C	d_1 ≈	s_1	$r_{1,2}$ min.	C	C_0		T max.			
mm							kN		r/min	°C	°F	kg	–
20	47	31	14	28,2	18,3	0,6	12,7	6,55	130	250	*480*	0,15	**YAR 204-2F/VA201**
	47	31	14	28,2	18,3	0,6	12,7	6,55	260	350	*660*	0,15	**YAR 204-2F/VA228**
25	52	34,1	15	33,7	19,8	0,6	14	7,8	110	250	*480*	0,19	**YAR 205-2F/VA201**
	52	34,1	15	33,7	19,8	0,6	14	7,8	230	350	*660*	0,19	**YAR 205-2F/VA228**
30	62	38,1	18	39,7	22,2	0,6	19,5	11,2	90	250	*480*	0,31	**YAR 206-2F/VA201**
	62	38,1	18	39,7	22,2	0,6	19,5	11,2	190	350	*660*	0,31	**YAR 206-2F/VA228**
35	72	42,9	19	46,1	25,4	1	25,5	15,3	80	250	*480*	0,42	**YAR 207-2F/VA201**
	72	42,9	19	46,1	25,4	1	25,5	15,3	160	350	*660*	0,42	**YAR 207-2F/VA228**
40	80	49,2	21	51,8	30,2	1	30,7	19	70	250	*480*	0,61	**YAR 208-2F/VA201**
	80	49,2	21	51,8	30,2	1	30,7	19	150	350	*660*	0,61	**YAR 208-2F/VA228**
45	85	49,2	22	56,8	30,2	1	33,2	21,6	60	250	*480*	0,68	**YAR 209-2F/VA201**
	85	49,2	22	56,8	30,2	1	33,2	21,6	130	350	*660*	0,68	**YAR 209-2F/VA228**
50	90	51,6	22	62,5	32,6	1	35,1	23,2	60	250	*480*	0,77	**YAR 210-2F/VA201**
	90	51,6	22	62,5	32,6	1	35,1	23,2	120	350	*660*	0,77	**YAR 210-2F/VA228**
55	100	55,6	25	69	33,4	1	43,6	29	50	250	*480*	1,05	**YAR 211-2F/VA201**
	100	55,6	25	69	33,4	1	43,6	29	110	350	*660*	1,05	**YAR 211-2F/VA228**
60	110	65,1	26	75,6	39,7	1,5	52,7	36	50	250	*480*	1,45	**YAR 212-2F/VA201**
	110	65,1	26	75,6	39,7	1,5	52,7	36	100	350	*660*	1,4	**YAR 212-2F/VA228**

[1)] Running in required
Not intended for relubrication

Insert bearings for high temperature applications, inch shafts

d **3/4 – 2 7/16** in.

19,05 – 61,913 mm

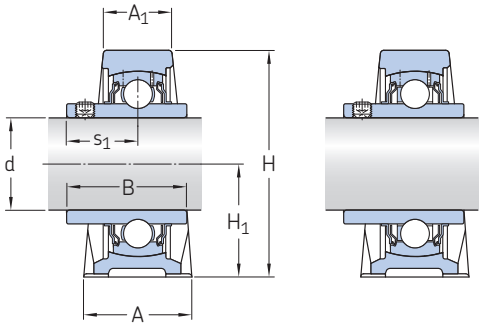


VA201 [1)] VA228

Principal dimensions							Basic load ratings dynamic	static	Limiting speed	Limiting temperature		Mass	Designation
d	D	B	C	d_1 ≈	s_1	$r_{1,2}$ min.	C	C_0		T max.			
in./*mm*							kN		r/min	°C	*°F*	kg	–
3/4	47	31	14	28,2	21,4	0,6	12,7	6,55	130	250	*480*	0,16	**YAR 204-012-2F/VA201**
19,05	47	31	14	28,2	21,4	0,6	12,7	6,55	260	350	*660*	0,16	**YAR 204-012-2F/VA228**
1	52	34,1	15	33,74	19,8	0,6	14	7,8	110	250	*480*	0,19	**YAR 205-100-2F/VA201**
25,4	52	34,1	15	33,74	19,8	0,6	14	7,8	230	350	*660*	0,19	**YAR 205-100-2F/VA228**
1 3/16	62	38,1	18	39,7	18,2	0,6	19,5	11,2	90	250	*480*	0,31	**YAR 206-103-2F/VA201**
30,163	62	38,1	18	39,7	18,2	0,6	19,5	11,2	190	350	*660*	0,31	**YAR 206-103-2F/VA228**
1 1/4	72	42,9	19	46,1	16,6	1	25,5	15,3	80	250	*480*	0,48	**YAR 207-104-2F/VA201**
31,75	72	42,9	19	46,1	16,6	1	25,5	15,3	160	350	*660*	0,48	**YAR 207-104-2F/VA228**
1 3/8	72	42,9	19	46,1	16,6	1	25,5	15,3	80	250	*480*	0,43	**YAR 207-106-2F/VA201**
34,925	72	42,9	19	46,1	16,6	1	25,5	15,3	160	350	*660*	0,42	**YAR 207-106-2F/VA228**
1 7/16	72	42,9	19	46,1	16,6	1	25,5	15,3	80	250	*480*	0,4	**YAR 207-107-2F/VA201**
36,513	72	42,9	19	46,1	16,6	1	25,5	15,3	160	350	*660*	0,39	**YAR 207-107-2F/VA228**
1 1/2	80	49,2	21	51,8	15,1	1	30,7	19	70	250	*480*	0,66	**YAR 208-108-2F/VA201**
38,1	80	49,2	21	51,8	15,1	1	30,7	19	150	350	*660*	0,65	**YAR 208-108-2F/VA228**
1 11/16	85	49,2	22	56,8	15,1	1	33,2	21,6	60	250	*480*	0,74	**YAR 209-111-2F/VA201**
42,863	85	49,2	22	56,8	15,1	1	33,2	21,6	130	350	*660*	0,73	**YAR 209-111-2F/VA228**
1 3/4	85	49,2	22	56,8	15,1	1	33,2	21,6	60	250	*480*	0,69	**YAR 209-112-2F/VA201**
44,45	85	49,2	22	56,8	15,1	1	33,2	21,6	130	350	*660*	0,69	**YAR 209-112-2F/VA228**
1 15/16	90	51,6	22	62,51	15,1	1	35,1	23,2	60	250	*480*	0,8	**YAR 210-115-2F/VA201**
49,213	90	51,6	22	62,51	15,1	1	35,1	23,2	120	350	*660*	0,79	**YAR 210-115-2F/VA228**
2	100	55,6	25	69,06	11,9	1	43,6	29	50	250	*480*	1,2	**YAR 211-200-2F/VA201**
50,8	100	55,6	25	69,06	11,9	1	43,6	29	110	350	*660*	1,2	**YAR 211-200-2F/VA228**
2 3/16	100	55,6	25	69,06	11,9	1	43,6	29	50	250	*480*	1,05	**YAR 211-203-2F/VA201**
55,563	100	55,6	25	69,06	11,9	1	43,6	29	110	350	*660*	1	**YAR 211-203-2F/VA228**
2 7/16	110	65,1	26	75,64	8,7	1,5	52,7	36	50	250	*480*	1,35	**YAR 212-207-2F/VA201**
61,913	110	65,1	26	75,64	8,7	1,5	52,7	36	100	350	*660*	1,35	**YAR 212-207-2F/VA228**

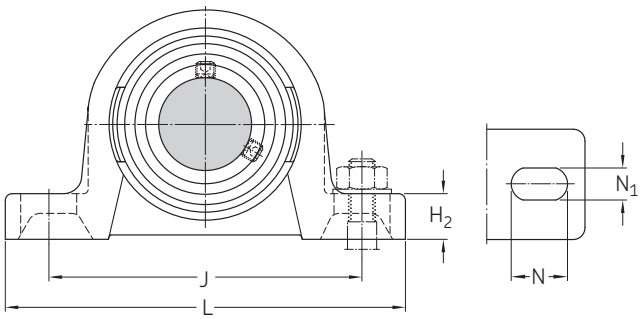
[1)] Running in required
Not intended for relubrication

Ball bearing plummer (pillow) block units for high temperature applications, metric shafts, ISO
d **20 – 60** mm



VA201 [1)]

VA228



Principal dimensions			Basic load ratings dynamic	static	Limiting speed	Limiting temperature		Designations Unit	Bearing
d	H_1	J	C	C_0		T max.			
mm			kN		r/min	°C	*°F*	–	
20	33,3	97	12,7	6,55	130	250	*480*	**SY 20 TF/VA201**	**YAR 204-2F/VA201**
	33,3	97	12,7	6,55	260	350	*660*	**SY 20 TF/VA228**	**YAR 204-2F/VA228**
25	36,5	102	14	7,8	110	250	*480*	**SY 25 TF/VA201**	**YAR 205-2F/VA201**
	36,5	102	14	7,8	230	350	*660*	**SY 25 TF/VA228**	**YAR 205-2F/VA228**
30	42,9	117,5	19,5	11,2	90	250	*480*	**SY 30 TF/VA201**	**YAR 206-2F/VA201**
	42,9	117,5	19,5	11,2	190	350	*660*	**SY 30 TF/VA228**	**YAR 206-2F/VA228**
35	47,6	126	25,5	15,3	80	250	*480*	**SY 35 TF/VA201**	**YAR 207-2F/VA201**
	47,6	126	25,5	15,3	160	350	*660*	**SY 35 TF/VA228**	**YAR 207-2F/VA228**
40	49,2	135,5	30,7	19	70	250	*480*	**SY 40 TF/VA201**	**YAR 208-2F/VA201**
	49,2	135,5	30,7	19	150	350	*660*	**SY 40 TF/VA228**	**YAR 208-2F/VA228**
45	54	143,5	33,2	21,6	60	250	*480*	**SY 45 TF/VA201**	**YAR 209-2F/VA201**
	54	143,5	33,2	21,6	130	350	*660*	**SY 45 TF/VA228**	**YAR 209-2F/VA228**
50	57,2	157	35,1	23,2	60	250	*480*	**SY 50 TF/VA201**	**YAR 210-2F/VA201**
	57,2	157	35,1	23,2	120	350	*660*	**SY 50 TF/VA228**	**YAR 210-2F/VA228**
55	63,5	171,5	43,6	29	50	250	*480*	**SY 55 TF/VA201**	**YAR 211-2F/VA201**
	63,5	171,5	43,6	29	110	350	*660*	**SY 55 TF/VA228**	**YAR 211-2F/VA228**
60	69,9	171,5	52,7	36	50	250	*480*	**SY 60 TF/VA201**	**YAR 212-2F/VA201**
	69,9	171,5	52,7	36	100	350	*660*	**SY 60 TF/VA228**	**YAR 212-2F/VA228**

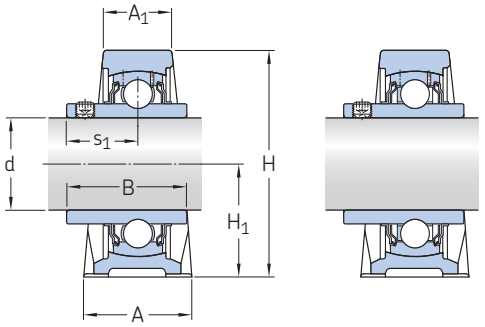
[1)] Running in required
Not intended for relubrication

Dimensions										Mass
d	A	A_1	B	H	H_2	L	N	N_1	s_1	
mm										kg
20	32 32	21 21	31 31	64,5 64,5	14 14	127 127	20,5 20,5	11,5 11,5	18,3 18,3	0,56 0,56
25	36 36	22 22	34,1 34,1	70 70	16 16	130 130	19,5 19,5	11,5 11,5	19,8 19,8	0,73 0,73
30	40 40	25 25	38,1 38,1	82 82	17 17	152 152	23,5 23,5	14 14	22,2 22,2	1,05 1,05
35	45 45	27 27	42,9 42,9	93 93	19 19	160 160	21 21	14 14	25,4 25,4	1,45 1,45
40	48 48	30 30	49,2 49,2	99 99	19 19	175 175	24,5 24,5	14 14	30,2 30,2	1,8 1,8
45	48 48	32 32	49,2 49,2	107 107	21 21	187 187	22,5 22,5	14 14	30,2 30,2	2,2 2,2
50	54 54	34 34	51,6 51,6	114 114	22 22	203 203	26 26	18 18	32,6 32,6	2,65 2,65
55	60 60	40 40	55,6 55,6	126 126	24 24	219 219	27,5 27,5	18 18	33,4 33,4	3,45 3,4
60	60 60	42 42	65,1 65,1	126 126	24 24	219 219	27,5 27,5	18 18	39,7 39,7	4,45 4,45

Ball bearing plummer (pillow) block units for high temperature applications, inch shafts, ISO

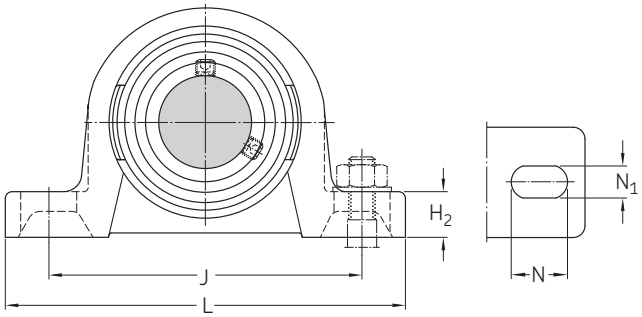
d **3/4 – 2 7/16** in.

19,05 – 61,913 mm



VA201 [1)]

VA228



Principal dimensions			Basic load ratings dynamic	static	Limiting speed	Limiting temperature		Designations Unit	Bearing
d	H_1	J	C	C_0		T max.			
in./*mm*			kN		r/min	°C	*°F*	–	
3/4	33,3	97	12,7	6,55	130	250	*480*	**SY 3/4 TF/VA201**	**YAR 204-012-2F/VA201**
19,05	33,3	97	12,7	6,55	260	350	*660*	**SY 3/4 TF/VA228**	**YAR 204-012-2F/VA228**
1	36,5	102	14	7,8	110	250	*480*	**SY 1. TF/VA201**	**YAR 205-100-2F/VA201**
25,4	36,5	102	14	7,8	230	350	*660*	**SY 1. TF/VA228**	**YAR 205-100-2F/VA228**
1 3/16	42,9	117,5	19,5	11,2	90	250	*480*	**SY 1.3/16 TF/VA201**	**YAR 206-103-2F/VA201**
30,163	42,9	117,5	19,5	11,2	190	350	*660*	**SY 1.3/16 TF/VA228**	**YAR 206-103-2F/VA228**
1 1/4	47,6	126	25,5	15,3	80	250	*480*	**SY 1.1/4 TF/VA201**	**YAR 207-104-2F/VA201**
31,75	47,6	126	25,5	15,3	160	350	*660*	**SY 1.1/4 TF/VA228**	**YAR 207-104-2F/VA228**
1 3/8	47,6	126	25,5	15,3	80	250	*480*	**SY 1.3/8 TF/VA201**	**YAR 207-106-2F/VA201**
34,925	47,6	126	25,5	15,3	160	350	*660*	**SY 1.3/8 TF/VA228**	**YAR 207-106-2F/VA228**
1 7/16	47,6	126	25,5	15,3	80	250	*480*	**SY 1.7/16 TF/VA201**	**YAR 207-107-2F/VA201**
36,513	47,6	126	25,5	15,3	160	350	*660*	**SY 1.7/16 TF/VA228**	**YAR 207-107-2F/VA228**
1 1/2	49,2	135,5	30,7	19	70	250	*480*	**SY 1.1/2 TF/VA201**	**YAR 208-108-2F/VA201**
38,1	49,2	135,5	30,7	19	150	350	*660*	**SY 1.1/2 TF/VA228**	**YAR 208-108-2F/VA228**
1 11/16	54	143,5	33,2	21,6	60	250	*480*	**SY 1.11/16 TF/VA201**	**YAR 209-111-2F/VA201**
42,863	54	143,5	33,2	21,6	130	350	*660*	**SY 1.11/16 TF/VA228**	**YAR 209-111-2F/VA228**
1 3/4	54	143,5	33,2	21,6	60	250	*480*	**SY 1.3/4 TF/VA201**	**YAR 209-112-2F/VA201**
44,45	54	143,5	33,2	21,6	130	350	*660*	**SY 1.3/4 TF/VA228**	**YAR 209-112-2F/VA228**
1 15/16	57,2	157	35,1	23,2	60	250	*480*	**SY 1.15/16 TF/VA201**	**YAR 210-115-2F/VA201**
49,213	57,2	157	35,1	23,2	120	350	*660*	**SY 1.15/16 TF/VA228**	**YAR 210-115-2F/VA228**
2	63,5	171,5	43,6	29	50	250	*480*	**SY 2. TF/VA201**	**YAR 211-200-2F/VA201**
50,8	63,5	171,5	43,6	29	110	350	*660*	**SY 2. TF/VA228**	**YAR 211-200-2F/VA228**
2 3/16	63,5	171,5	43,6	29	50	250	*480*	**SY 2.3/16 TF/VA201**	**YAR 211-203-2F/VA201**
55,563	63,5	171,5	43,6	29	110	350	*660*	**SY 2.3/16 TF/VA228**	**YAR 211-203-2F/VA228**
2 7/16	69,9	171,5	52,7	36	50	250	*480*	**SY 2.7/16 TF/VA201**	**YAR 212-207-2F/VA201**
61,913	69,9	171,5	52,7	36	100	350	*660*	**SY 2.7/16 TF/VA228**	**YAR 212-207-2F/VA228**

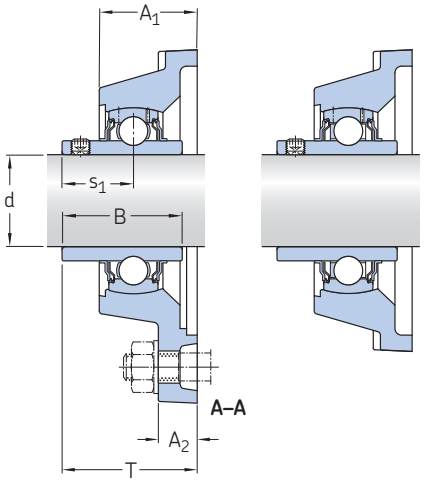
[1)] Running in required
Not intended for relubrication

Dimensions										**Mass**
d	A	A_1	B	H	H_2	L	N	N_1	s_1	
in./*mm*										kg
3/4	32	21	31	64,5	14	127	20,5	11,5	18,3	0,57
19,05	32	21	31	64,5	14	127	20,5	11,5	18,3	0,57
1	36	22	34,1	70	16	130	19,5	11,5	19,8	0,72
25,4	36	22	34,1	70	16	130	19,5	11,5	19,8	0,73
1 3/16	40	25	38,1	82	17	152	23,5	14	22,2	0,81
30,163	40	25	38,1	82	17	152	23,5	14	22,2	1,05
1 1/4	45	27	42,9	93	19	160	21	14	25,4	1,5
31,75	45	27	42,9	93	19	160	21	14	25,4	1,5
1 3/8	45	27	42,9	93	19	160	21	14	25,4	1,45
34,925	45	27	42,9	93	19	160	21	14	25,4	1,45
1 7/16	45	27	42,9	93	19	160	21	14	25,4	1,45
36,513	45	27	42,9	93	19	160	21	14	25,4	1,45
1 1/2	48	30	49,2	99	19	175	24,5	14	30,2	1,85
38,1	48	30	49,2	99	19	175	24,5	14	30,2	1,85
1 11/16	48	32	49,2	107	21	187	22,5	14	30,2	2,2
42,863	48	32	49,2	107	21	187	22,5	14	30,2	2,25
1 3/4	48	32	49,2	107	21	187	22,5	14	30,2	2,2
44,45	48	32	49,2	107	21	187	22,5	14	30,2	2,2
1 15/16	54	34	51,6	114	22	203	26	18	32,6	2,7
49,213	54	34	51,6	114	22	203	26	18	32,6	2,7
2	60	40	55,6	126	24	219	27,5	18	33,4	3,6
50,8	60	40	55,6	126	24	219	27,5	18	33,4	3,55
2 3/16	60	40	55,6	126	24	219	27,5	18	33,4	3,4
55,563	60	40	55,6	126	24	219	27,5	18	33,4	3,4
2 7/16	60	42	65,1	126	24	219	27,5	18	39,7	4,35
61,913	60	42	65,1	126	24	219	27,5	18	39,7	4,35

Not intended for relubrication

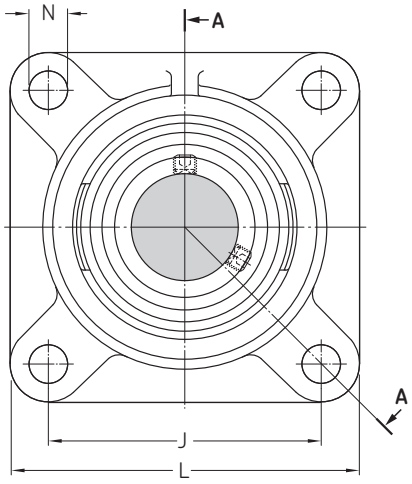
Ball bearing square flanged units for high temperature applications, metric shafts, ISO

d **20 – 60** mm



VA201 [1)]

VA228



Principal dimensions		Basic load ratings dynamic	static	Limiting speed	Limiting temperature		Designations Unit	Bearing
d	J	C	C_0		T max.			
mm		kN		r/min	°C	°F	–	
20	63,5	12,7	6,55	130	250	*480*	**FY 20 TF/VA201**	**YAR 204-2F/VA201**
	63,5	12,7	6,55	260	350	*660*	**FY 20 TF/VA228**	**YAR 204-2F/VA228**
25	70	14	7,8	110	250	*480*	**FY 25 TF/VA201**	**YAR 205-2F/VA201**
	70	14	7,8	230	350	*660*	**FY 25 TF/VA228**	**YAR 205-2F/VA228**
30	82,5	19,5	11,2	90	250	*480*	**FY 30 TF/VA201**	**YAR 206-2F/VA201**
	82,5	19,5	11,2	190	350	*660*	**FY 30 TF/VA228**	**YAR 206-2F/VA228**
35	92	25,5	15,3	80	250	*480*	**FY 35 TF/VA201**	**YAR 207-2F/VA201**
	92	25,5	15,3	160	350	*660*	**FY 35 TF/VA228**	**YAR 207-2F/VA228**
40	101,5	30,7	19	70	250	*480*	**FY 40 TF/VA201**	**YAR 208-2F/VA201**
	101,5	30,7	19	150	350	*660*	**FY 40 TF/VA228**	**YAR 208-2F/VA228**
45	105	33,2	21,6	60	250	*480*	**FY 45 TF/VA201**	**YAR 209-2F/VA201**
	105	33,2	21,6	130	350	*660*	**FY 45 TF/VA228**	**YAR 209-2F/VA228**
50	111	35,1	23,2	60	250	*480*	**FY 50 TF/VA201**	**YAR 210-2F/VA201**
	111	35,1	23,2	120	350	*660*	**FY 50 TF/VA228**	**YAR 210-2F/VA228**
55	130	43,6	29	50	250	*480*	**FY 55 TF/VA201**	**YAR 211-2F/VA201**
	130	43,6	29	110	350	*660*	**FY 55 TF/VA228**	**YAR 211-2F/VA228**
60	143	52,7	36	50	250	*480*	**FY 60 TF/VA201**	**YAR 212-2F/VA201**
	143	52,7	36	100	350	*660*	**FY 60 TF/VA228**	**YAR 212-2F/VA228**

[1)] Running in required
Not intended for relubrication

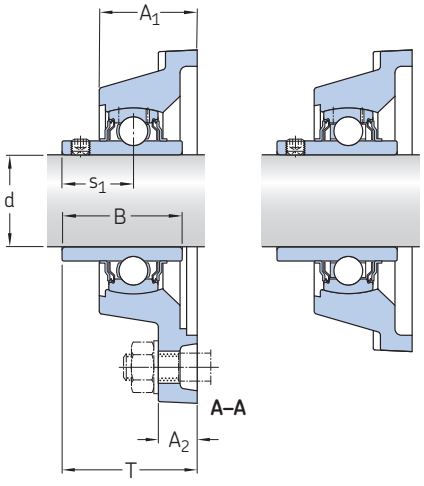
Dimensions								Mass
d	A_1	A_2	B	L	N	s_1	T	
mm								kg
20	29,5 29,5	11 11	31 31	86 86	11,5 11,5	18,3 18,3	37,3 37,3	0,54 0,55
25	30 30	12 12	34,1 34,1	95 95	11,5 11,5	19,8 19,8	38,8 38,8	0,72 0,72
30	32,5 32,5	13 13	38,1 38,1	108 108	11,5 11,5	22,2 22,2	42,2 42,2	1,05 1,05
35	34,5 34,5	13 13	42,9 42,9	118 118	14 14	25,4 25,4	46,4 46,4	1,3 1,3
40	38,5 38,5	14 14	49,2 49,2	130 130	14 14	30,2 30,2	54,2 54,2	1,8 1,8
45	39 39	14 14	49,2 49,2	137 137	16 16	30,2 30,2	54,2 54,2	2 2
50	43 43	15 15	51,6 51,6	143 143	18 18	32,6 32,6	60,6 60,6	2,3 2,3
55	47,5 47,5	16 16	55,6 55,6	162 162	18 18	33,4 33,4	64,4 64,4	3,35 3,35
60	52 52	17 17	65,1 65,1	175 175	18 18	39,7 39,7	73,7 73,7	4 4

Not intended for relubrication

Ball bearing square flanged units for high temperature applications, inch shafts, ISO

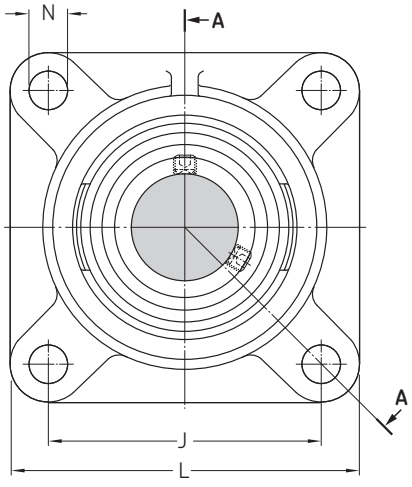
d **3/4 – 2 7/16** in.

19,05 – 61,913 mm



VA201 [1)]

VA228



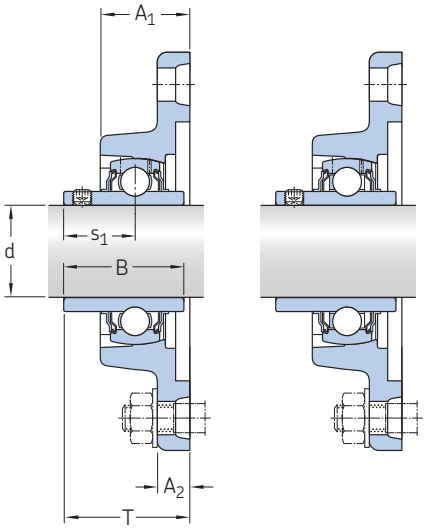
Principal dimensions		Basic load ratings dynamic	static	Limiting speed	Limiting temperature		Designations Unit	Bearing
d	J	C	C_0		T max.			
in./*mm*		kN		r/min	°C	*°F*	–	
3/4	63,5	12,7	6,55	130	250	*480*	**FY 3/4 TF/VA201**	**YAR 204-012-2F/VA201**
19,05	63,5	12,7	6,55	260	350	*660*	**FY 3/4 TF/VA228**	**YAR 204-012-2F/VA228**
1	70	14	7,8	110	250	*480*	**FY 1. TF/VA201**	**YAR 205-100-2F/VA201**
25,4	70	14	7,8	230	350	*660*	**FY 1. TF/VA228**	**YAR 205-100-2F/VA228**
1 3/16	82,5	19,5	11,2	90	250	*480*	**FY 1.3/16 TF/VA201**	**YAR 206-103-2F/VA201**
30,163	82,5	19,5	11,2	190	350	*660*	**FY 1.3/16 TF/VA228**	**YAR 206-103-2F/VA228**
1 1/4	92	25,5	15,3	80	250	*480*	**FY 1.1/4 TF/VA201**	**YAR 207-104-2F/VA201**
31,75	92	25,5	15,3	160	350	*660*	**FY 1.1/4 TF/VA228**	**YAR 207-104-2F/VA228**
1 7/16	92	25,5	15,3	80	250	*480*	**FY 1.7/16 TF/VA201**	**YAR 207-107-2F/VA201**
36,513	92	25,5	15,3	160	350	*660*	**FY 1.7/16 TF/VA228**	**YAR 207-107-2F/VA228**
1 1/2	101,5	30,7	19	70	250	*480*	**FY 1.1/2 TF/VA201**	**YAR 208-108-2F/VA201**
38,1	101,5	30,7	19	150	350	*660*	**FY 1.1/2 TF/VA228**	**YAR 208-108-2F/VA228**
1 11/16	105	33,2	21,6	60	250	*480*	**FY 1.11/16 TF/VA201**	**YAR 209-111-2F/VA201**
42,863	105	33,2	21,6	130	350	*660*	**FY 1.11/16 TF/VA228**	**YAR 209-111-2F/VA228**
1 3/4	105	33,2	21,6	60	250	*480*	**FY 1.3/4 TF/VA201**	**YAR 209-112-2F/VA201**
44,45	105	33,2	21,6	130	350	*660*	**FY 1.3/4 TF/VA228**	**YAR 209-112-2F/VA228**
1 15/16	111	35,1	23,2	60	250	*480*	**FY 1.15/16 TF/VA201**	**YAR 210-115-2F/VA201**
49,213	111	35,1	23,2	120	350	*660*	**FY 1.15/16 TF/VA228**	**YAR 210-115-2F/VA228**
2	130	43,6	29	50	250	*480*	**FY 2. TF/VA201**	**YAR 211-200-2F/VA201**
50,8	130	43,6	29	110	350	*660*	**FY 2. TF/VA228**	**YAR 211-200-2F/VA228**
2 3/16	130	43,6	29	50	250	*480*	**FY 2.3/16 TF/VA201**	**YAR 211-203-2F/VA201**
55,563	130	43,6	29	110	350	*660*	**FY 2.3/16 TF/VA228**	**YAR 211-203-2F/VA228**
2 7/16	143	52,7	36	50	250	*480*	**FY 2.7/16 TF/VA201**	**YAR 212-207-2F/VA201**
61,913	143	52,7	36	100	350	*660*	**FY 2.7/16 TF/VA228**	**YAR 212-207-2F/VA228**

[1)] Running in required
Not intended for relubrication

Dimensions								**Mass**
d	A_1	A_2	B	L	N	s_1	T	
in./*mm*								kg
3/4	29,5	11	31	86	11,5	18,3	37,3	0,55
19,05	29,5	11	31	86	11,5	18,3	37,3	0,55
1	30	12	34,1	95	11,5	19,8	38,8	0,72
25,4	30	12	34,1	95	11,5	19,8	38,8	0,72
1 3/16	32,5	13	38,1	108	11,5	22,2	42,2	0,8
30,163	32,5	13	38,1	108	11,5	22,2	42,2	1,05
1 1/4	34,5	13	42,9	118	14	25,4	46,4	1,35
31,75	34,5	13	42,9	118	14	25,4	46,4	1,35
1 7/16	34,5	13	42,9	118	14	25,4	46,4	1,3
36,513	34,5	13	42,9	118	14	25,4	46,4	1,35
1 1/2	38,5	14	49,2	130	14	30,2	54,2	1,85
38,1	38,5	14	49,2	130	14	30,2	54,2	1,85
1 11/16	39	14	49,2	137	16	30,2	54,2	2,05
42,863	39	14	49,2	137	16	30,2	54,2	2,05
1 3/4	39	14	49,2	137	16	30,2	54,2	2
44,45	39	14	49,2	137	16	30,2	54,2	2
1 15/16	43	15	51,6	143	18	32,6	60,6	2,35
49,213	43	15	51,6	143	18	32,6	60,6	2,35
2	47,5	16	55,6	162	18	33,4	64,4	3,5
50,8	47,5	16	55,6	162	18	33,4	64,4	3,5
2 3/16	47,5	16	55,6	162	18	33,4	64,4	3,3
55,563	47,5	16	55,6	162	18	33,4	64,4	3,35
2 7/16	52	17	65,1	175	18	39,7	73,7	3,9
61,913	52	17	65,1	175	18	39,7	73,7	3,9

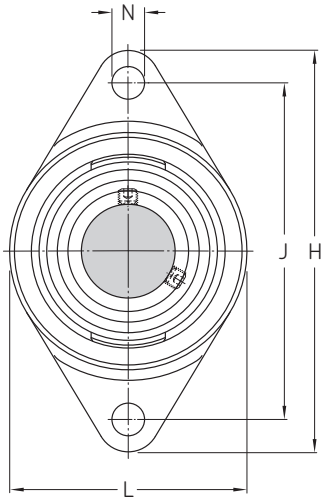
Not intended for relubrication

Ball bearing oval flanged units for high temperature applications, metric shafts, ISO
d **20 – 55** mm



VA201 [1)]

VA228



Principal dimensions		Basic load ratings dynamic	static	Limiting speed	Limiting temperature		Designations Unit	Bearing
d	J	C	C_0		T max.			
mm		kN		r/min	°C	*°F*	–	
20	90	12,7	6,55	130	250	*480*	**FYTB 20 TF/VA201**	**YAR 204-2F/VA201**
	90	12,7	6,55	260	350	*660*	**FYTB 20 TF/VA228**	**YAR 204-2F/VA228**
25	99	14	7,8	110	250	*480*	**FYTB 25 TF/VA201**	**YAR 205-2F/VA201**
	99	14	7,8	230	350	*660*	**FYTB 25 TF/VA228**	**YAR 205-2F/VA228**
30	116,5	19,5	11,2	90	250	*480*	**FYTB 30 TF/VA201**	**YAR 206-2F/VA201**
	116,5	19,5	11,2	190	350	*660*	**FYTB 30 TF/VA228**	**YAR 206-2F/VA228**
35	130	25,5	15,3	80	250	*480*	**FYTB 35 TF/VA201**	**YAR 207-2F/VA201**
	130	25,5	15,3	160	350	*660*	**FYTB 35 TF/VA228**	**YAR 207-2F/VA228**
40	143,5	30,7	19	70	250	*480*	**FYTB 40 TF/VA201**	**YAR 208-2F/VA201**
	143,5	30,7	19	150	350	*660*	**FYTB 40 TF/VA228**	**YAR 208-2F/VA228**
45	148,5	33,2	21,6	60	250	*480*	**FYTB 45 TF/VA201**	**YAR 209-2F/VA201**
	148,5	33,2	21,6	130	350	*660*	**FYTB 45 TF/VA228**	**YAR 209-2F/VA228**
50	157	35,1	23,2	60	250	*480*	**FYTB 50 TF/VA201**	**YAR 210-2F/VA201**
	157	35,1	23,2	120	350	*660*	**FYTB 50 TF/VA228**	**YAR 210-2F/VA228**
55	184	43,6	29	50	250	*480*	**FYTB 55 TF/VA201**	**YAR 211-2F/VA201**
	184	43,6	29	110	350	*660*	**FYTB 55 TF/VA228**	**YAR 211-2F/VA228**

[1)] Running in required
Not intended for relubrication

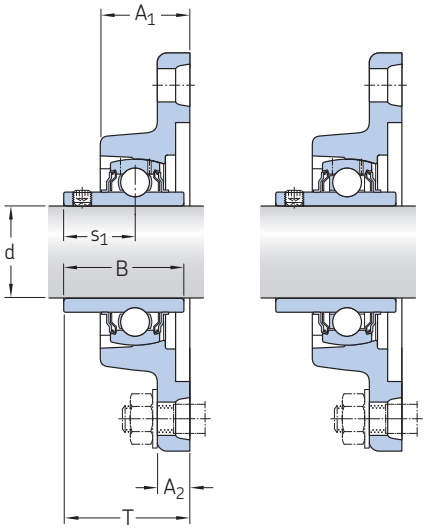
Dimensions									Mass
d	A_1	A_2	B	H	L	N	s_1	T	
mm									kg
20	29,5	11	31	112	60,5	11,5	18,3	37,3	0,45
	29,5	11	31	112	60,5	11,5	18,3	37,3	0,45
25	30	12	34,1	124	70	11,5	19,8	38,8	0,59
	30	12	34,1	124	70	11,5	19,8	38,8	0,59
30	32,5	13	38,1	141,5	83	11,5	22,2	42,2	0,88
	32,5	13	38,1	141,5	83	11,5	22,2	42,2	0,88
35	34,5	13	42,9	156	96	14	25,4	46,4	1,2
	34,5	13	42,9	156	96	14	25,4	46,4	1,2
40	38,5	14	49,2	171,5	102	14	30,2	54,2	1,6
	38,5	14	49,2	171,5	102	14	30,2	54,2	1,6
45	39	14	49,2	178,5	111	16	30,2	54,2	1,8
	39	14	49,2	178,5	111	16	30,2	54,2	1,8
50	43	15	51,6	189	116	18	32,6	60,6	2,1
	43	15	51,6	189	116	18	32,6	60,6	2,1
55	47	16	55,6	216	127	18	33,4	64,4	2,75
	47	16	55,6	216	127	18	33,4	64,4	2,75

Not intended for relubrication

Ball bearing oval flanged units for high temperature applications, inch shafts, ISO

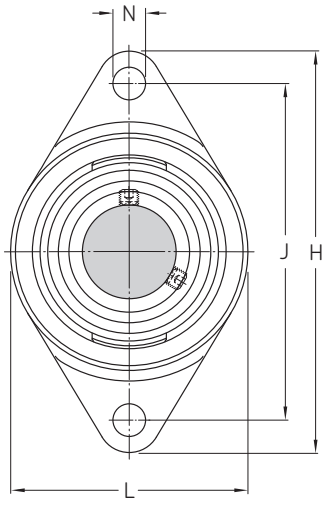
d **3/4 – 2** in.

19,05 – 50,8 mm



VA201 [1)]

VA228



Principal dimensions		Basic load ratings dynamic	static	Limiting speed	Limiting temperature		Designations Unit	Bearing
d	J	C	C_0		T max.			
in./*mm*		kN		r/min	°C	*°F*	–	
3/4	90	12,7	6,55	130	250	*480*	**FYTB 3/4 TF/VA201**	**YAR 204-012-2F/VA201**
19,05	90	12,7	6,55	260	350	*660*	**FYTB 3/4 TF/VA228**	**YAR 204-012-2F/VA228**
1	99	14	7,8	110	250	*480*	**FYTB 1. TF/VA201**	**YAR 205-100-2F/VA201**
25,4	99	14	7,8	230	350	*660*	**FYTB 1. TF/VA228**	**YAR 205-100-2F/VA228**
1 1/4	130	25,5	15,3	80	250	*480*	**FYTB 1.1/4 TF/VA201**	**YAR 207-104-2F/VA201**
31,75	130	25,5	15,3	160	350	*660*	**FYTB 1.1/4 TF/VA228**	**YAR 207-104-2F/VA228**
1 3/8	130	25,5	15,3	80	250	*480*	**FYTB 1.3/8 TF/VA201**	**YAR 207-106-2F/VA201**
34,925	130	25,5	15,3	160	350	*660*	**FYTB 1.3/8 TF/VA228**	**YAR 207-106-2F/VA228**
1 1/2	143,5	30,7	19	70	250	*480*	**FYTB 1.1/2 TF/VA201**	**YAR 208-108-2F/VA201**
38,1	143,5	30,7	19	150	350	*660*	**FYTB 1.1/2 TF/VA228**	**YAR 208-108-2F/VA228**
1 11/16	148,5	33,2	21,6	60	250	*480*	**FYTB 1.11/16 TF/VA201**	**YAR 209-111-2F/VA201**
42,863	148,5	33,2	21,6	130	350	*660*	**FYTB 1.11/16 TF/VA228**	**YAR 209-111-2F/VA228**
1 3/4	148,5	33,2	21,6	60	250	*480*	**FYTB 1.3/4 TF/VA201**	**YAR 209-112-2F/VA201**
44,45	148,5	33,2	21,6	130	350	*660*	**FYTB 1.3/4 TF/VA228**	**YAR 209-112-2F/VA228**
1 15/16	157	35,1	23,2	60	250	*480*	**FYTB 1.15/16 TF/VA201**	**YAR 210-115-2F/VA201**
49,213	157	35,1	23,2	120	350	*660*	**FYTB 1.15/16 TF/VA228**	**YAR 210-115-2F/VA228**
2	184	43,6	29	50	250	*480*	**FYTB 2. TF/VA201**	**YAR 211-200-2F/VA201**
50,8	184	43,6	29	110	350	*660*	**FYTB 2. TF/VA228**	**YAR 211-200-2F/VA228**

[1)] Running in required
Not intended for relubrication

Dimensions									**Mass**
d	A_1	A_2	B	H	L	N	s_1	T	
in./*mm*									kg
3/4	29,5	11	31	112	60,5	11,5	18,3	37,3	0,46
19,05	29,5	11	31	112	60,5	11,5	18,3	37,3	0,45
1	30	12	34,1	124	70	11,5	19,8	38,8	0,59
25,4	30	12	34,1	124	70	11,5	19,8	38,8	0,59
1 1/4	34,5	13	42,9	156	96	14	25,4	46,4	1,25
31,75	34,5	13	42,9	156	96	14	25,4	46,4	1,25
1 3/8	34,5	13	42,9	156	96	14	25,4	46,4	1,2
34,925	34,5	13	42,9	156	96	14	25,4	46,4	1,2
1 1/2	38,5	14	49,2	171,5	102	14	30,2	54,2	1,65
38,1	38,5	14	49,2	171,5	102	14	30,2	54,2	1,65
1 11/16	39	14	49,2	178,5	111	16	30,2	54,2	1,85
42,863	39	14	49,2	178,5	111	16	30,2	54,2	1,85
1 3/4	39	14	49,2	178,5	111	16	30,2	54,2	1,8
44,45	39	14	49,2	178,5	111	16	30,2	54,2	1,8
1 15/16	43	15	51,6	189	116	18	32,6	60,6	2,1
49,213	43	15	51,6	189	116	18	32,6	60,6	2,1
2	47	16	55,6	216	127	18	33,4	64,4	2,9
50,8	47	16	55,6	216	127	18	33,4	64,4	2,9

Not intended for relubrication

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