New Series PDNS fan bearing housing

In addition to the familiar PDNI and BL series that have been available for a number of years, HFB now offer a new series, the PDNS, as an addition to their tried and tested successful HFB range. Like the other models, this fan bearing housing is also designed for grease lubrication. The bearing units are simple to assemble, have low maintenance requirements and incorporate effective sealing against dirt and dust.

As with the PDNI and BL series, PDNS fan bearing housings are constructed as monobloc housings with good torsional stress-resistant characteristics. Their advantage lies in the precision alignment of their bearing housing bores, which gives outstanding true running. Moreover, the high-quality manufacturing process ensures that the foot surfaces and the bearing housing bores are completely parallel and symmetrical to ensure the best possible running characteristics.

This not only removes the need for extensive work to align the bearings, necessary for plummer blocks, but also creates the best possible conditions for the use of various bearing designs and types, giving the ability to adapt to various different loads and stresses.

With their two bearings the PDNS fan bearing housings are able to cope with large tilting moments as well as absorb high radial and axial forces if necessary. They can also meet operational requirements calling for low bearing loads (e.g. operation with couplings) or when the critical speed of a shaft is a design criterion.

The PDNS series offers different main dimensions from the two PDNI and BL series. No special shaft designs are offered for the PDNS series, unlike the PDNI and BL series. The standard material for the PDNS housing is EN-GJS-400-18 LT. The shaft designs are based on customer requests and requirements. The recommended shaft material for standard designs is S355J2 or 1.0577; alternative shaft materials are available on request and as required. Special and one-off designs, including sizes larger than shown here, are also available. Based on their many years of experience and technical specialists, HFB offer the basis for a complete and optimal solution from initial to detailed design, calculations (FEM) and lubrication advice up to engineering and production.

The range of applications is highly varied, but the bearing blocks are used mainly in fan installations. They have additional advantages where bearing unit assemblies are required that are easy to install accurately, such as conveyor technology, process engineering, belt drives, textile machinery, feed systems, sawmills and equipment requiring similar bearings.

Three types of bearing design are offered as standard in the new PDNS series:

- Deep-groove ball bearings / deep-groove ball bearings with spring ring (floating pre-loaded bearing)
- Deep-groove ball bearings / deep-groove ball bearings with spring ring (fixed/floating bearing)
- Deep-groove ball bearings / NJ cylindrical roller bearing (floating bearing)

As a special feature, the PDNS series offers as standard a bearing housing with four connections at each bearing; two size G¼“ or M12 x 1 PT 100 connections and two size M8 and M10 PT100 connections. The bearing seats in the housing are designed as G7 fits with O-rings fitted as standard in the bearing seats to secure the outer rings and prevent them from rotating.

The seals in the PDNS fan bearing housing are felt strips with V-ring seals factory-fitted in the bearing caps. The felt strips and V-ring seals can be replaced by Gamma rings if required and if necessary. Grease nipples are provided at both ends of the housing for topping up the bearing lubrication.

The grease quantity control discs on the shaft at the inside of the bearings guide the lubricating grease leaving the rolling-contact bearings into the empty housing space thus preventing over-lubrication.

Fully-assembled PDNS series fan bearing units with the shaft and bearings installed are prefilled with a lubricating grease (K3K-20 as per DIN 51825). Special lubricating greases can be used if requested by the customer.

The designations of the standard versions of the fan bearing housings follow the bearing bore sizes of the rolling-contact bearings used.

The PDNS models are available in sizes for bearing bores of 30 mm diameter for PDNS 306 up to 120 mm diameter for PDNS 324.

General ordering example:

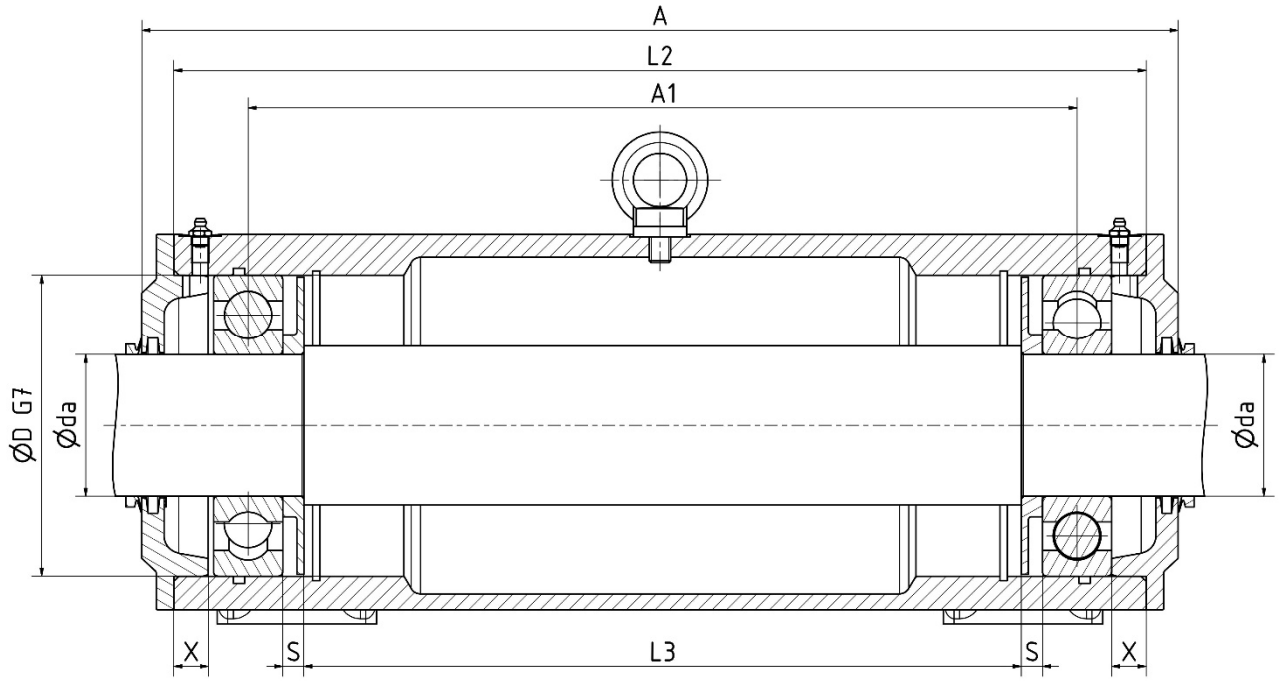
Complete fan bearing unit including shaft and bearings	PDNS 310 KPL
Complete fan bearing housing assembly without shaft and bearings	PDNS 310

We naturally also supply individual components such as rolling-contact bearings and compensating spring washers.

FAN BEARING HOUSING

PDNS series

for deep-groove ball bearings (without shaft)
Floating bearings



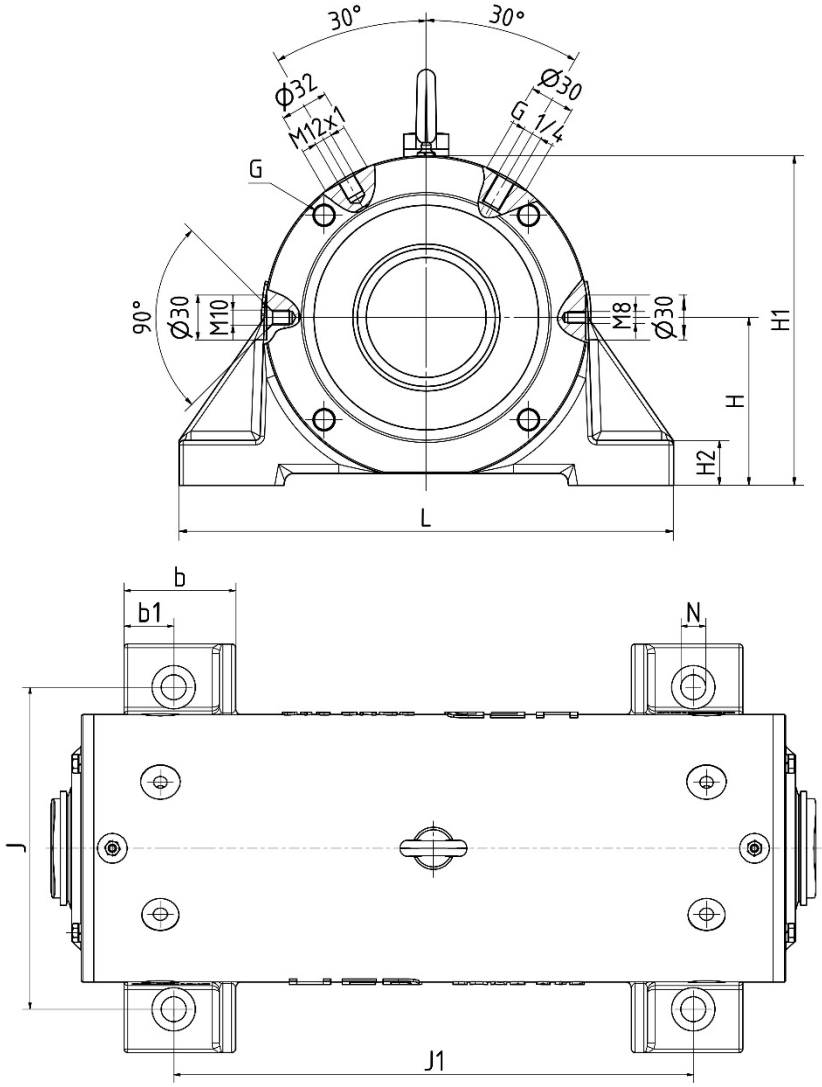
Abbre-viation	da	H	H1	L2	A	A1	L3	L	b)	b1	H2	J1	J	S	X	N	D
									mm								
PDNS 306	30	50	99	217	235	173	140	170	50	20	16	150	130	7	11.5	15	72
PDNS 307	35	60	116	245	275	197	160	190	50	20	18	175	150	8	12.5	15	80
PDNS 308	40	60	121	306	330	257	214	190	62	26	18	225	150	10	12	15	90
PDNS 309	45	70	136	336	370	280.5	235.5	210	70	30	20	250	170	10	14.25	15	100
PDNS 310	50	70	141	370	405	314.5	265.5	210	70	30	20	275	170	11	13.25	15	110
PDNS 311	55	80	156	399	433	336.5	587.5	270	70	30	23	300	210	10	15.75	20	120
PDNS 312	60	80	160	447	479	384	333	270	70	30	23	340	210	10	15	20	130
PDNS 313	65	95	185	471	503	402	348	290	80	35	25	360	230	10.5	16.75	20	140
PDNS 314	70	95	190	491	534	521	364	290	80	35	25	380	230	11	16.25	20	150
PDNS 315	75	100	200	525	559	450	289	330	80	35	28	400	260	12	17.75	20	160
PDNS 316	80	112	220	549	585	468	405	330	90	40	30	420	260	12	19.5	20	170
PDNS 317	85	112	225	561	593	478	415	350	90	45	30	440	290	11	19.5	20	180
PDNS 318	90	112	230	569	605	483.5	418.5	350	100	45	30	460	290	11	19.75	20	190
PDNS 320	100	130	264	627	673	533	463	400	110	50	40	500	320	11.5	22	24	215
PDNS 322	110	150	295	650	678	577	504	450	130	60	40	520	380	11.5	10	26	240

160	322.5	684	705	599.5	521.5	500	110	50	42	540	410	11.5	13	35	260

FAN BEARING HOUSING

PDNS series

for deep-groove ball bearings (without shaft)
Preloaded floating bearings



Abbre-viation	Standard Bearing	Weight [kg] approx.	Grease quantity per bearing [gr.] Initial filling	Topping up qty.	Cover bolts per end G	Speed limit rpm	Comp. spring washer
PDNS 306	6306 C3	8.4	48	5	4 x M 6	9500	EPL 54
PDNS 307	6307 C3	11.5	80	5	4 x M 6	8150	EPL 58
PDNS 308	6308 C3	15.5	95	10	4 x M 6	7150	EPL 62
PDNS 309	6309 C3	19	143	10	4 x M 6	6350	EPL 67
PDNS 310	6310 C3	21	177	10	4 x M 6	5700	EPL 72
PDNS 311	6311 C3	27.5	220	15	4 x M 8	5200	EPL 79
PDNS 312	6312 C3	30.5	251	15	4 x M 8	4750	EPL 86
PDNS 313	6313 C3	39.1	313	15	4 x M 8	4400	EPL 92
PDNS 314	6314 C3	42.5	395	20	4 x M 8	4100	EPL 99
PDNS 315	6315 C3	53	494	20	4 x M 8	3800	EPL 105
PDNS 316	6316 C3	59.5	579	20	4 x M 8	3550	EPL 109
PDNS 317	6317 C3	64	554	20	4 x M 8	3350	EPL 113
PDNS 318	6318 C3	86	647	25	4 x M 8	3150	EPL 118
PDNS 320	6320 C3	119	947	35	4 X M 10	2850	EPL 127

PDNS 322	6322 C3	139	850	40	6 X M 10	2600	EPL 134
PDNS 324	6324 C3	178	997	45	6 X M 10	2400	EPL 138