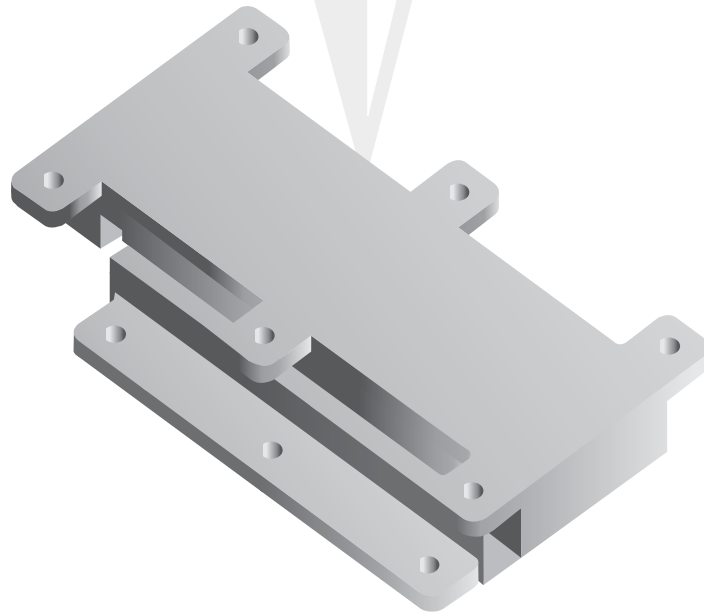


D Series

Line Rocker

Fixed & Sliding Structural Bearings



www.ekspan.com

Description

The D Series is a range of line rocker fixed and ptfе sliding bearings to support loads of 100 kN - 8500 kN. The D Series is designed to suit a comprehensive range of requirements.

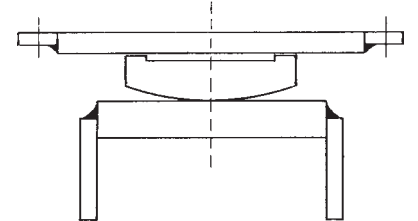
Bearing types

- | | |
|-------------------------|---|
| 10D Fixed Bearing | - No horizontal movement |
| 11D Constrained Bearing | - Horizontal movement in one direction only |
| 12D Free Bearing | - Horizontal movement in any direction |

Attachment

Three alternative fixing arrangements are available
 Suffix N - No fixings*
 Suffix P - Bolting lugs
 Suffix Q - Dowel bars

*10D and 11D types must be positively located. If suffix N is specified, the top and base plates must be adequately attached to the adjacent members eg by welding



Example for Specifying Attachment
 Suffix = PQ
 Top = P
 Base = Q

Support and Installation

Important - See pages 24 - 27 for Handling, Storage, Installation and Maintenance.

Concrete stress

At maximum combined vertical and horizontal load under full 0.02 radians rotation, the peak concrete stress is 25 MN/m².

Rotation and movement

±0.02 radians about a transverse horizontal axis.

The dimensions for the constrained 11D and Free Sliding 12D are shown in the tables for the following movements:

- | | | |
|----------|---|------------------|
| Rotation | - 0.02 radians about a transverse horizontal axis | |
| Movement | - ±25mm (50 total) Longitudinal | 11D and 12D only |
| | ±10mm (20 total) Transverse | 12D only |

Increased movements in increments of 50 total (±25) can be accommodated. The top plate dimensions and the top fixing centres should be increased accordingly. **NB** The transverse movement for the 11D must remain at zero.

The required movements should be specified in the part no. suffix e.g. -100 -20 designates ±50 longitudinal, ±10 transverse movement on a 12D type.

For full part no. designation see below.

Designation of part no.

The wide range of bearing configurations, movements and fixing methods available within the D Series provides the designer with the unique opportunity of selecting a bearing to meet his specific requirements - **THUS ELIMINATING THE NEED TO SPECIFY SPECIALLY DESIGNED BEARINGS.**

Selection and designation of the bearing required can be made by studying the examples below and the dimensional tables on pages 3 - 23.

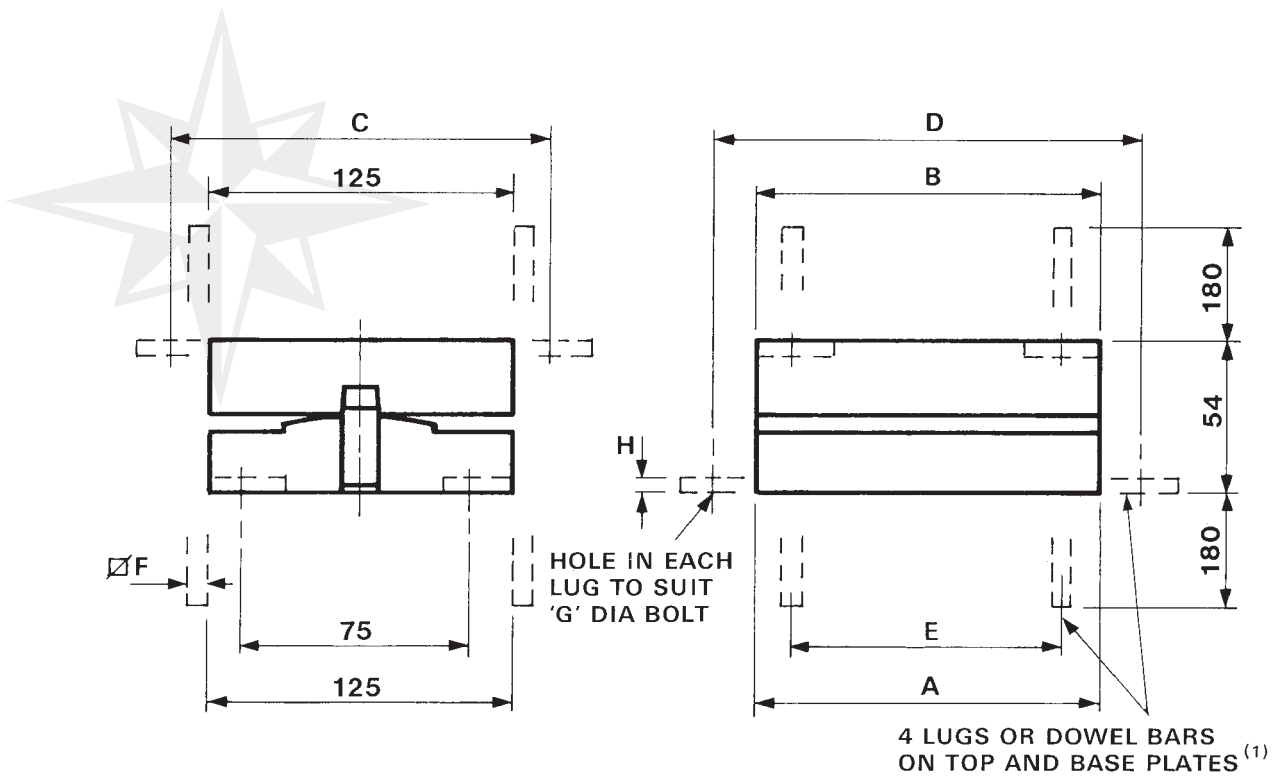
Examples:-

Bearing Type	Size	Load Capacity (tonnes)	Movement		Fixing		
			Longitudinal (mm)	Transverse (mm)	Top	Base	
Fixed	10D	160	110			P	Q
Constrained	11D	125	50	100		P	P
Free	12D	380	200	50	20	N	N

NOTE: Where the movements required are greater than those shown in the tables ensure the top plate dimensions are increased accordingly.

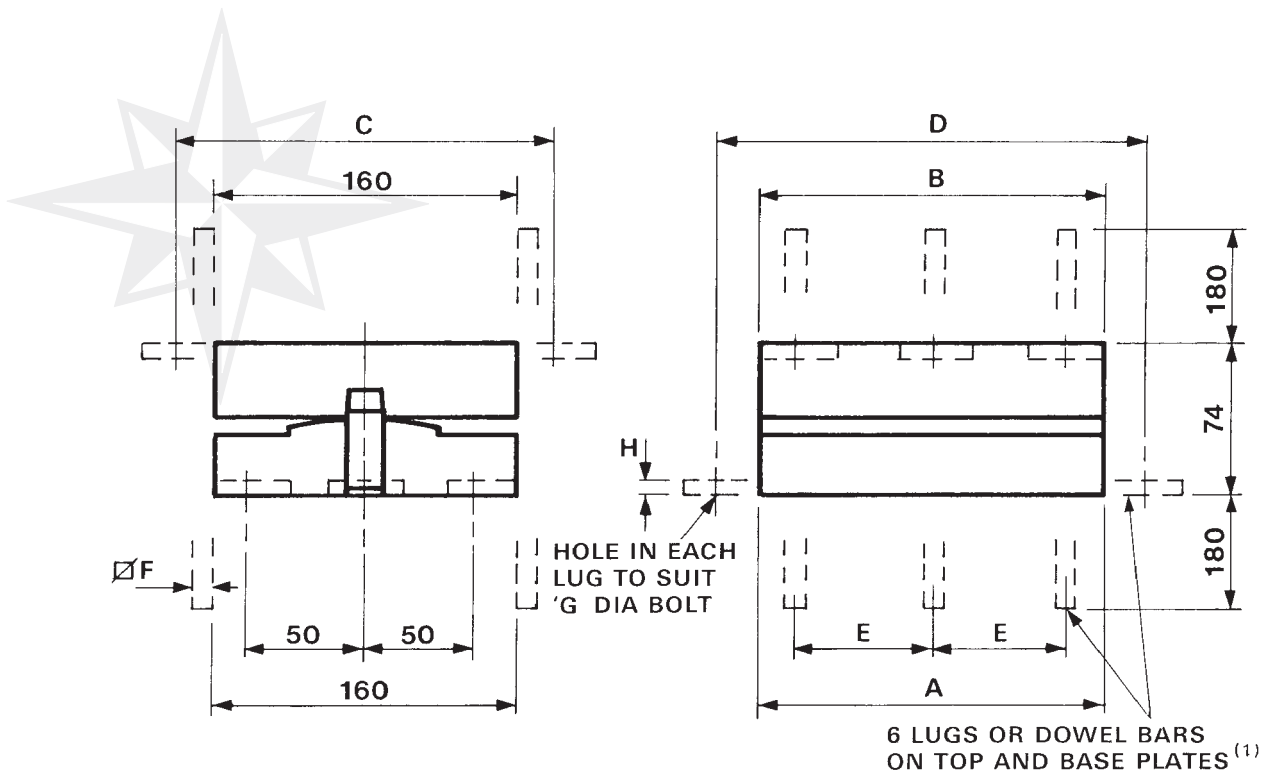
Material

Weldable Structural Steel to BS4360-43A



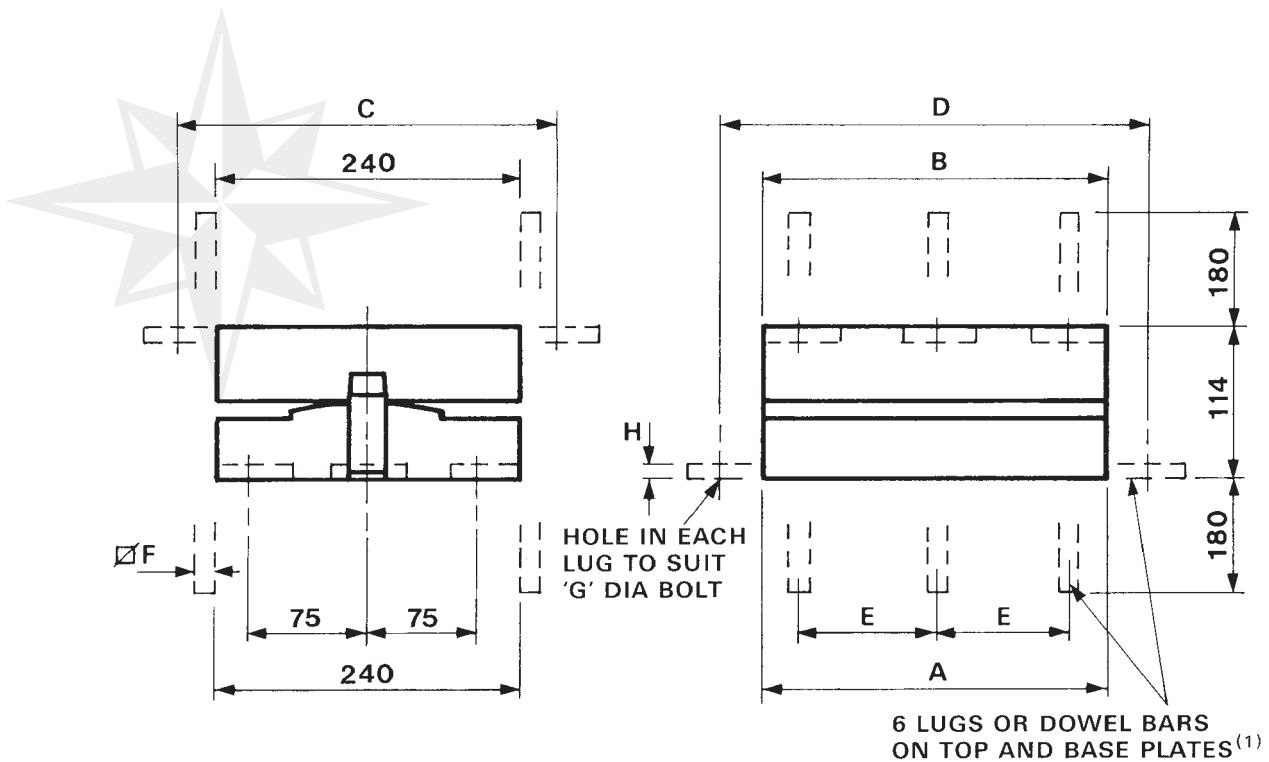
(1) Alternative Fixings Shown Dotted - See Page 2

Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
10D-125-10	100	53	110	110	185	170	55	16	16	12
10D-125-20	200	53	165	165	185	225	85	16	16	12
10D-125-30	300	53	230	230	185	290	115	16	16	12
10D-125-40	400	53	290	290	185	350	145	16	16	12
10D-125-50	500	53	355	355	185	415	180	16	16	12
10D-125-60	600	53	420	420	185	480	210	16	16	12
10D-125-70	700	53	480	480	185	540	240	16	16	12
10D-125-80	800	53	545	545	185	605	275	16	16	12
10D-125-90	900	53	605	605	185	665	305	16	16	12
10D-125-100	1000	53	670	670	185	730	335	16	16	12



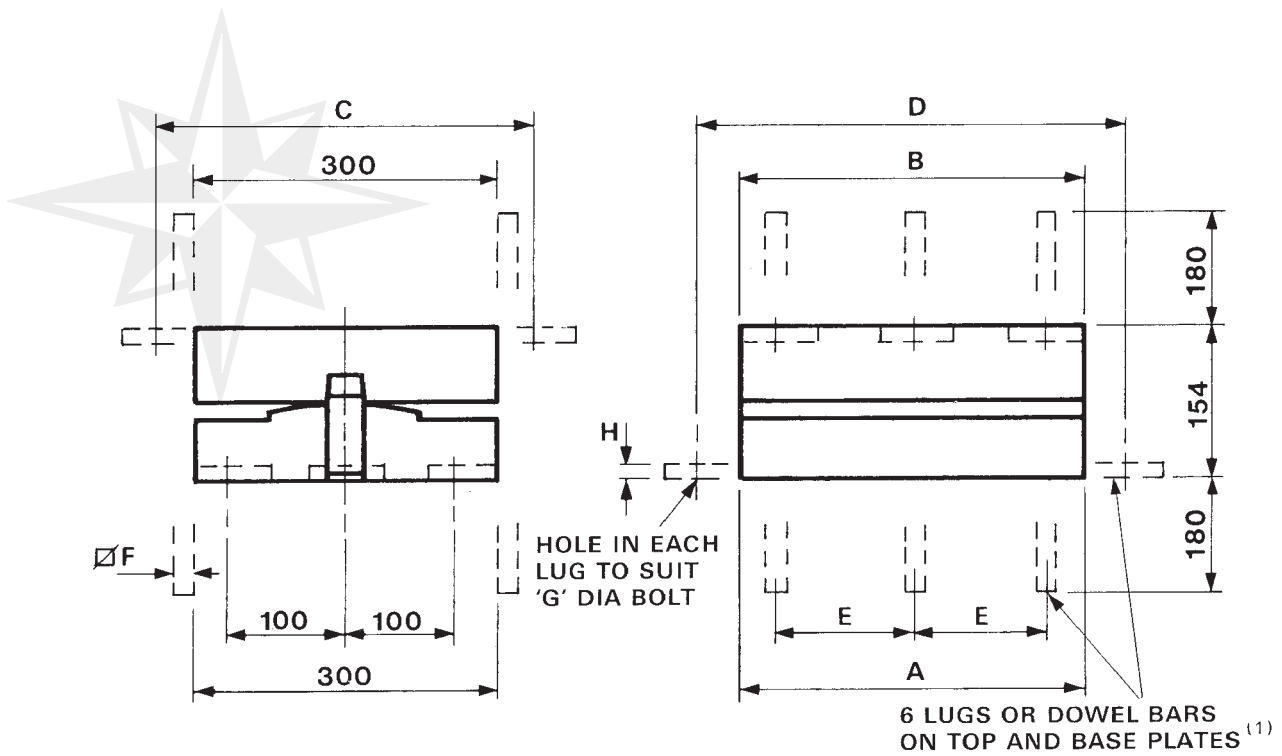
(1) Alternative Fixings Shown Dotted - See Page 2

Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
10D-160-20	200	95	135	135	220	195	40	16	16	12
10D-160-30	300	95	180	180	220	240	60	16	16	12
10D-160-40	400	95	220	220	220	280	70	16	16	12
10D-160-50	500	95	265	265	220	325	85	16	16	12
10D-160-60	600	95	305	305	220	365	100	16	16	12
10D-160-70	700	95	345	345	220	405	115	16	16	12
10D-160-80	800	95	390	390	220	450	130	16	16	12
10D-160-90	900	95	430	430	220	490	140	16	16	12
10D-160-100	1000	95	475	475	220	535	155	16	16	12
10D-160-110	1100	95	515	515	220	575	170	16	16	12
10D-160-120	1200	95	560	560	220	620	185	16	16	12
10D-160-130	1300	95	600	600	220	660	200	16	16	12
10D-160-140	1400	95	640	640	220	700	210	16	16	12
10D-160-150	1500	95	685	685	220	745	225	16	16	12
10D-160-160	1600	95	725	725	220	785	240	16	16	12
10D-160-180	1800	95	810	810	220	870	270	16	16	12
10D-160-200	2000	95	895	895	220	955	295	16	16	12



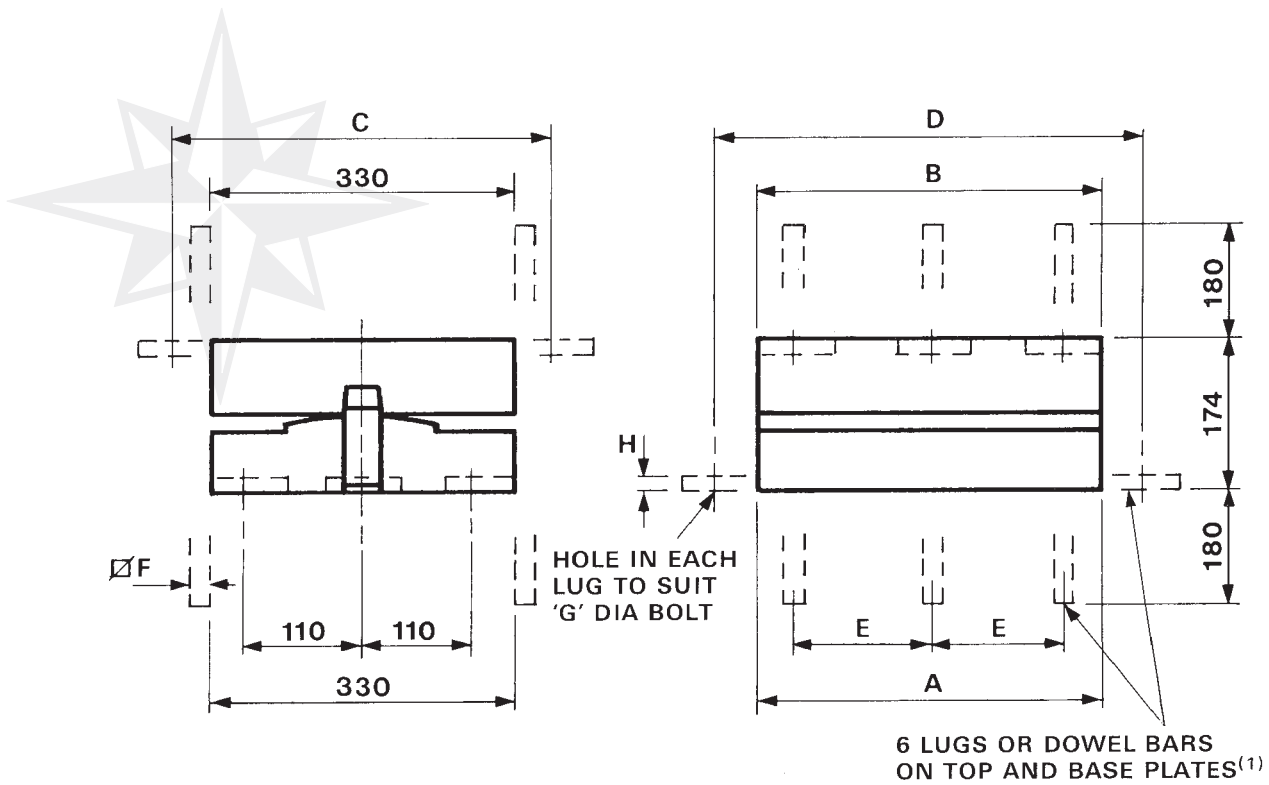
(1) Alternative Fixings Shown Dotted - See Page 2

Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
10D-240-80	800	95	265	265	300	325	85	16	20	12
10D-240-90	900	95	290	290	300	350	95	16	20	12
10D-240-100	1000	95	315	315	300	375	105	16	20	12
10D-240-110	1100	213	370	370	310	440	120	20	24	12
10D-240-120	1200	213	395	395	310	465	130	20	24	12
10D-240-130	1300	213	420	420	310	490	140	20	24	12
10D-240-140	1400	213	450	450	310	520	150	20	24	12
10D-240-150	1500	213	475	475	310	545	155	20	24	12
10D-240-160	1600	213	500	500	310	570	165	20	24	12
10D-240-170	1700	213	525	525	310	595	175	20	24	12
10D-240-180	1800	213	555	555	310	625	185	20	24	12
10D-240-190	1900	213	580	580	310	650	190	20	24	12
10D-240-200	2000	213	605	605	310	675	200	20	24	12
10D-240-220	2200	380	685	685	330	775	225	25	30	20
10D-240-240	2400	380	740	740	330	830	245	25	30	20
10D-240-260	2600	380	790	790	330	880	260	25	30	20
10D-240-280	2800	380	845	845	330	935	280	25	30	20
10D-240-300	3000	380	895	895	330	985	295	25	30	20
10D-240-320	3200	380	950	950	330	1040	315	25	30	20
10D-240-340	3400	380	1000	1000	330	1090	330	25	30	20
10D-240-360	3600	380	1055	1055	330	1145	350	25	30	20
10D-240-380	3800	380	1105	1105	330	1195	365	25	30	20
10D-240-400	4000	380	1160	1160	330	1250	385	25	30	20



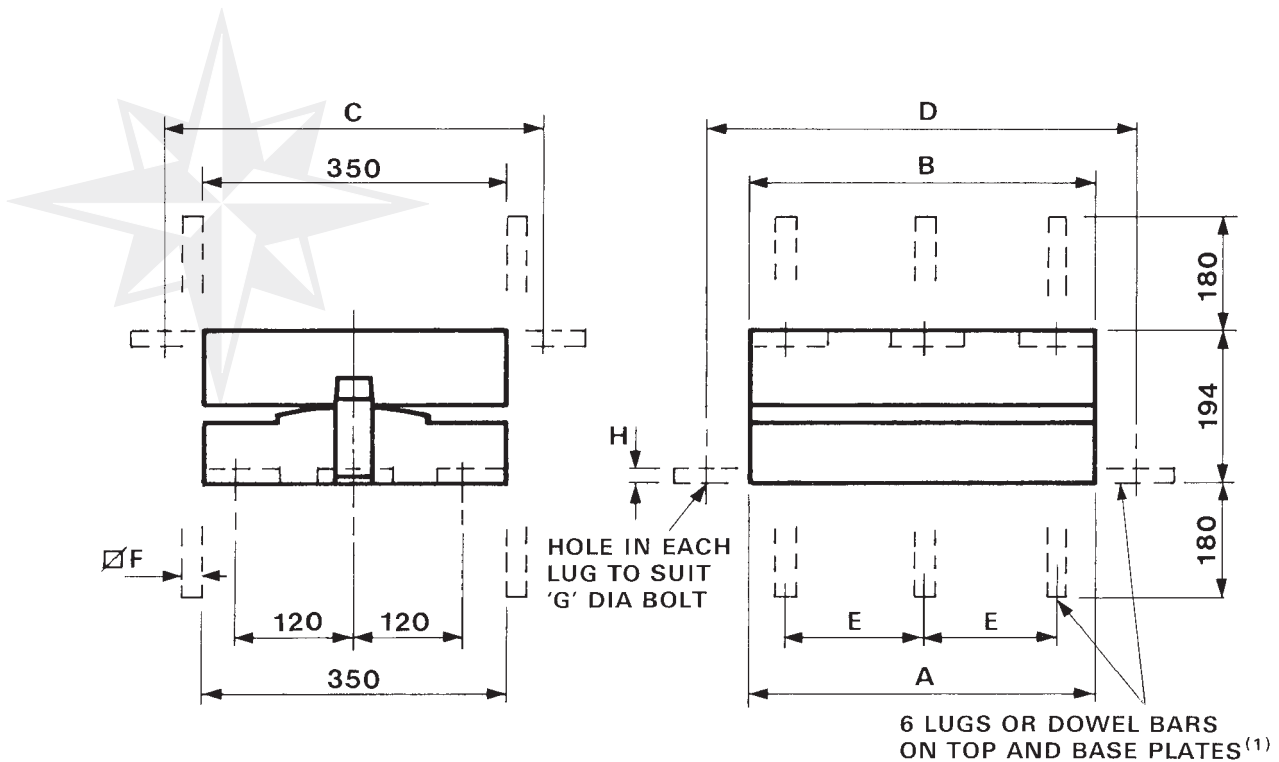
(1) Alternative Fixings Shown Dotted - See Page 2

Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
10D-300-150	1500	213	345	345	370	415	115	20	24	12
10D-300-160	1600	213	360	360	370	430	120	20	24	12
10D-300-170	1700	213	380	380	370	450	125	20	24	12
10D-300-180	1800	213	395	395	370	465	130	20	24	12
10D-300-190	1900	213	415	415	370	485	135	20	24	12
10D-300-200	2000	213	430	430	370	500	140	20	24	12
10D-300-220	2200	380	490	490	390	580	160	25	30	20
10D-300-240	2400	380	525	525	390	615	175	25	30	20
10D-300-260	2600	380	565	565	390	655	185	25	30	20
10D-300-280	2800	380	600	600	390	690	200	25	30	20
10D-300-300	3000	380	635	635	390	725	210	25	30	20
10D-300-320	3200	380	670	670	390	760	220	25	30	20
10D-300-340	3400	380	705	705	390	795	235	25	30	20
10D-300-360	3600	380	740	740	390	830	245	25	30	20
10D-300-380	3800	380	775	775	390	865	255	25	30	20
10D-300-400	4000	481	820	820	390	910	270	25	30	20
10D-300-420	4200	481	855	855	390	945	285	25	30	20
10D-300-440	4400	481	890	890	390	980	295	25	30	20
10D-300-460	4600	481	925	925	390	1015	305	25	30	20
10D-300-480	4800	481	960	960	390	1050	320	25	30	20
10D-300-500	5000	481	995	995	390	1085	330	25	30	20



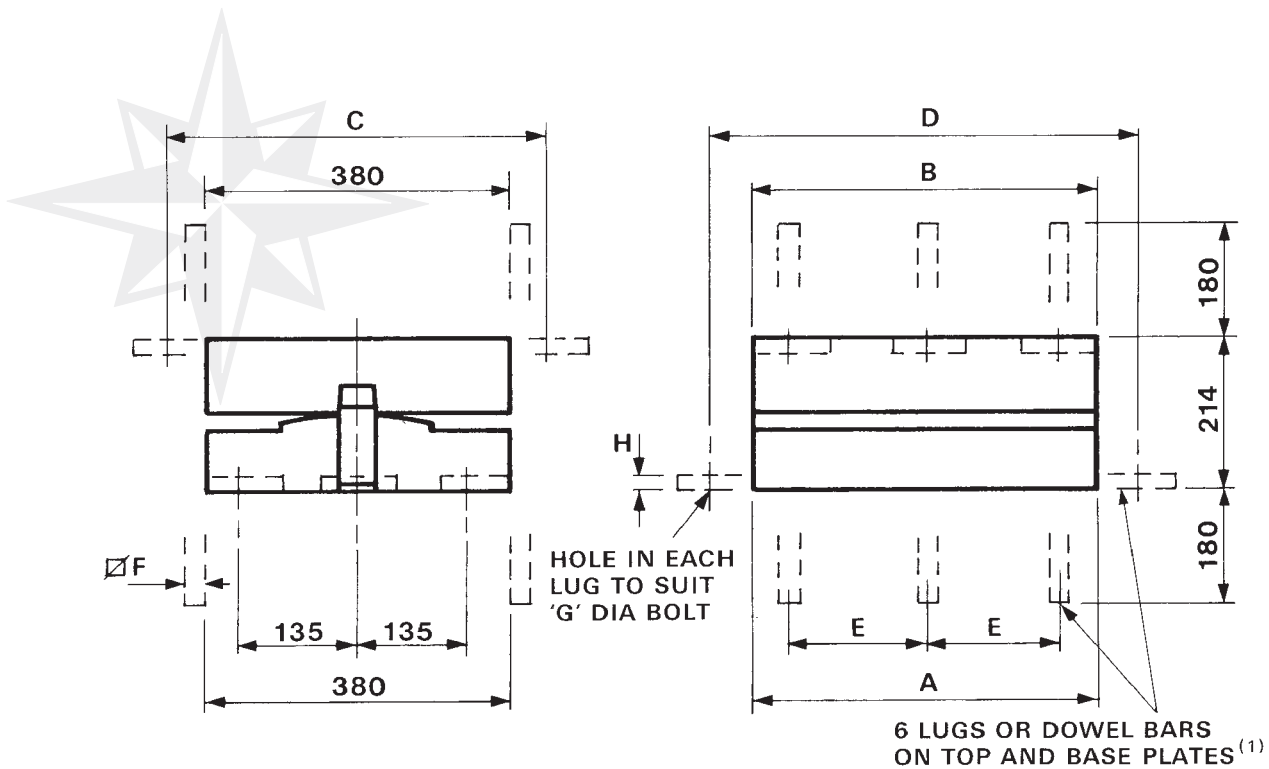
(1) Alternative Fixings Shown Dotted - See Page 2

Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
10D-330-200	2000	380	405	405	420	495	135	25	30	20
10D-330-220	2200	380	435	435	420	525	145	25	30	20
10D-330-240	2400	380	465	465	420	555	155	25	30	20
10D-330-260	2600	380	495	495	420	585	165	25	30	20
10D-330-280	2800	380	525	525	420	615	175	25	30	20
10D-330-300	3000	380	555	555	420	645	185	25	30	20
10D-330-320	3200	380	585	585	420	675	195	25	30	20
10D-330-340	3400	380	615	615	420	705	205	25	30	20
10D-330-360	3600	380	645	645	420	735	215	25	30	20
10D-330-380	3800	380	675	675	420	765	225	25	30	20
10D-330-400	4000	481	720	720	420	810	240	25	30	20
10D-330-420	4200	481	750	750	420	840	250	25	30	20
10D-330-440	4400	481	780	780	420	870	260	25	30	20
10D-330-460	4600	481	810	810	420	900	270	25	30	20
10D-330-480	4800	481	840	840	420	930	280	25	30	20
10D-330-500	5000	593	880	880	440	990	290	30	36	20
10D-330-520	5200	593	915	915	440	1025	305	30	36	20
10D-330-540	5400	593	945	945	440	1055	315	30	36	20
10D-330-560	5600	593	975	975	440	1085	325	30	36	20
10D-330-580	5800	593	1005	1005	440	1115	335	30	36	20
10D-330-600	6000	593	1035	1035	440	1145	345	30	36	20



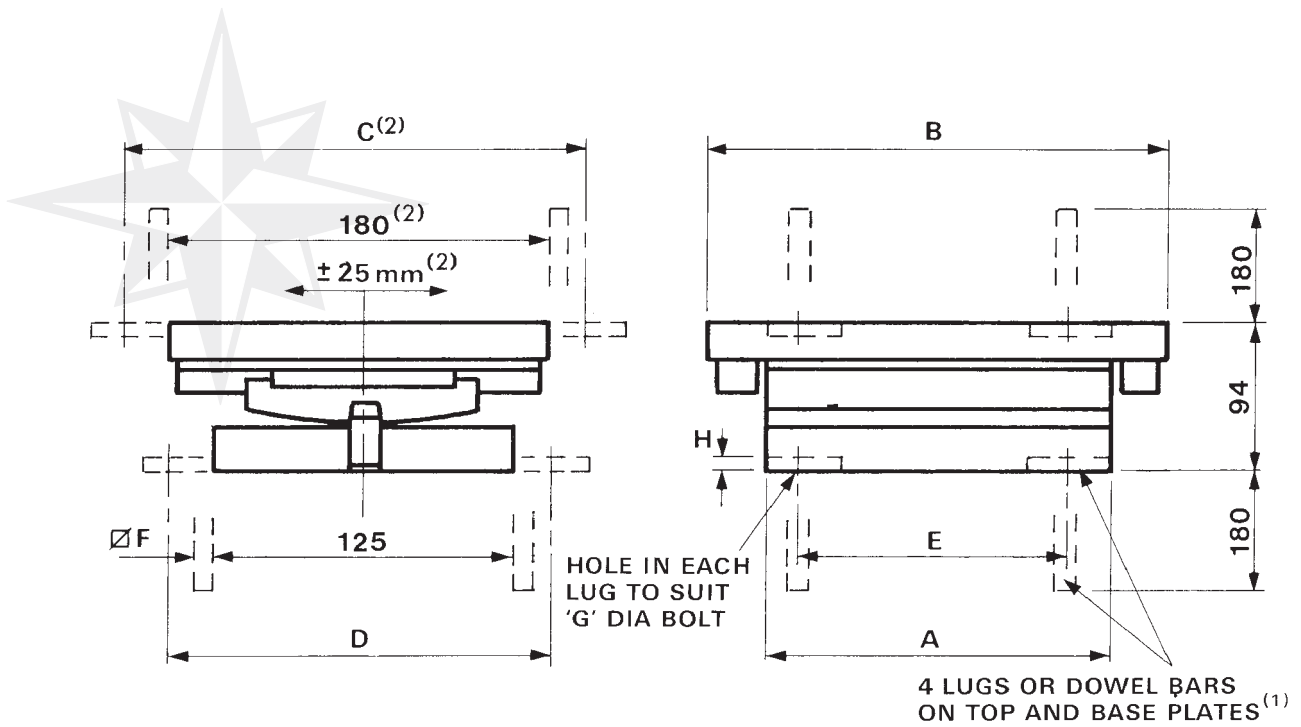
(1) Alternative Fixings Shown Dotted - See Page 2

Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
10D-350-200	2000	380	355	355	440	445	115	25	30	20
10D-350-220	2200	380	385	385	440	475	125	25	30	20
10D-350-240	2400	380	410	410	440	500	135	25	30	20
10D-350-260	2600	380	440	440	440	530	145	25	30	20
10D-350-280	2800	380	465	465	440	555	155	25	30	20
10D-350-300	3000	380	495	495	440	585	165	25	30	20
10D-350-320	3200	380	525	525	440	615	175	25	30	20
10D-350-340	3400	380	550	550	440	640	180	25	30	20
10D-350-360	3600	380	580	580	440	670	190	25	30	20
10D-350-380	3800	380	605	605	440	695	200	25	30	20
10D-350-400	4000	481	655	655	440	745	215	25	30	20
10D-350-420	4200	481	680	680	440	770	225	25	30	20
10D-350-440	4400	481	710	710	440	800	235	25	30	20
10D-350-460	4600	481	740	740	440	830	245	25	30	20
10D-350-480	4800	481	765	765	440	855	255	25	30	20
10D-350-500	5000	593	815	815	460	925	270	30	36	20
10D-350-520	5200	593	845	845	460	955	280	30	36	20
10D-350-540	5400	593	875	875	460	985	290	30	36	20
10D-350-560	5600	593	900	900	460	1010	300	30	36	20
10D-350-580	5800	593	930	930	460	1040	310	30	36	20
10D-350-600	6000	593	955	955	460	1065	315	30	36	20
10D-350-620	6200	593	985	985	460	1095	325	30	36	20
10D-350-640	6400	593	1010	1010	460	1120	335	30	36	20
10D-350-660	6600	593	1040	1040	460	1150	345	30	36	20
10D-350-680	6800	593	1070	1070	460	1180	355	30	36	20
10D-350-700	7000	593	1095	1095	460	1205	365	30	36	20



(1) Alternative Fixings Shown Dotted - See Page 2

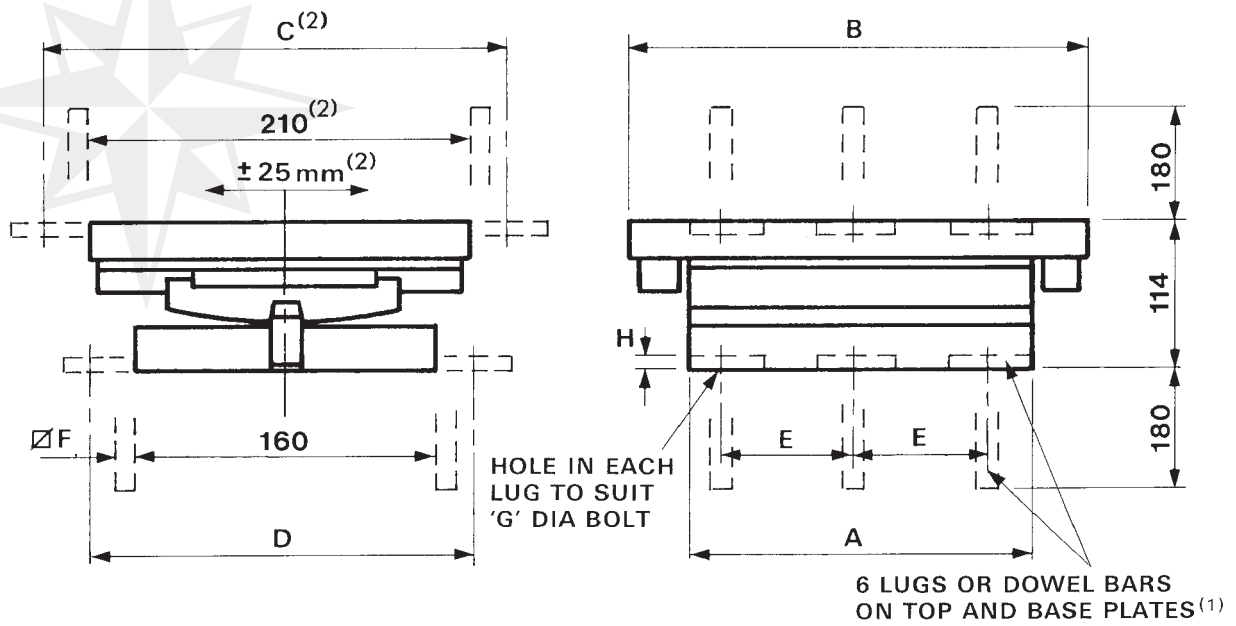
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
10D-380-200	2000	380	330	330	470	420	110	25	30	20
10D-380-225	2250	380	355	355	470	445	115	25	30	20
10D-380-250	2500	380	390	390	470	480	130	25	30	20
10D-380-275	2750	380	420	420	470	510	140	25	30	20
10D-380-300	3000	380	450	450	470	540	150	25	30	20
10D-380-325	3250	380	485	485	470	575	160	25	30	20
10D-380-350	3500	380	515	515	470	605	170	25	30	20
10D-380-375	3750	380	545	545	470	635	180	25	30	20
10D-380-400	4000	481	595	595	470	685	195	25	30	20
10D-380-425	4250	481	630	630	470	720	210	25	30	20
10D-380-450	4500	481	660	660	470	750	220	25	30	20
10D-380-475	4750	481	690	690	470	780	230	25	30	20
10D-380-500	5000	593	745	745	490	855	245	30	36	20
10D-380-525	5250	593	775	775	490	885	255	30	36	20
10D-380-550	5500	593	805	805	490	915	265	30	36	20
10D-380-575	5750	593	840	840	490	950	280	30	36	20
10D-380-600	6000	593	870	870	490	980	290	30	36	20
10D-380-625	6250	593	905	905	490	1015	300	30	36	20
10D-380-650	6500	593	935	935	490	1045	310	30	36	20
10D-380-675	6750	593	965	965	490	1075	320	30	36	20
10D-380-700	7000	593	1000	1000	490	1110	330	30	36	20
10D-380-725	7250	593	1030	1030	490	1140	340	30	36	20
10D-380-750	7500	593	1060	1060	490	1170	350	30	36	20
10D-380-775	7750	593	1095	1095	490	1205	365	30	36	20
10D-380-800	8000	593	1125	1125	490	1235	375	30	36	20
10D-380-850	8500	593	1190	1190	490	1300	395	30	36	20



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

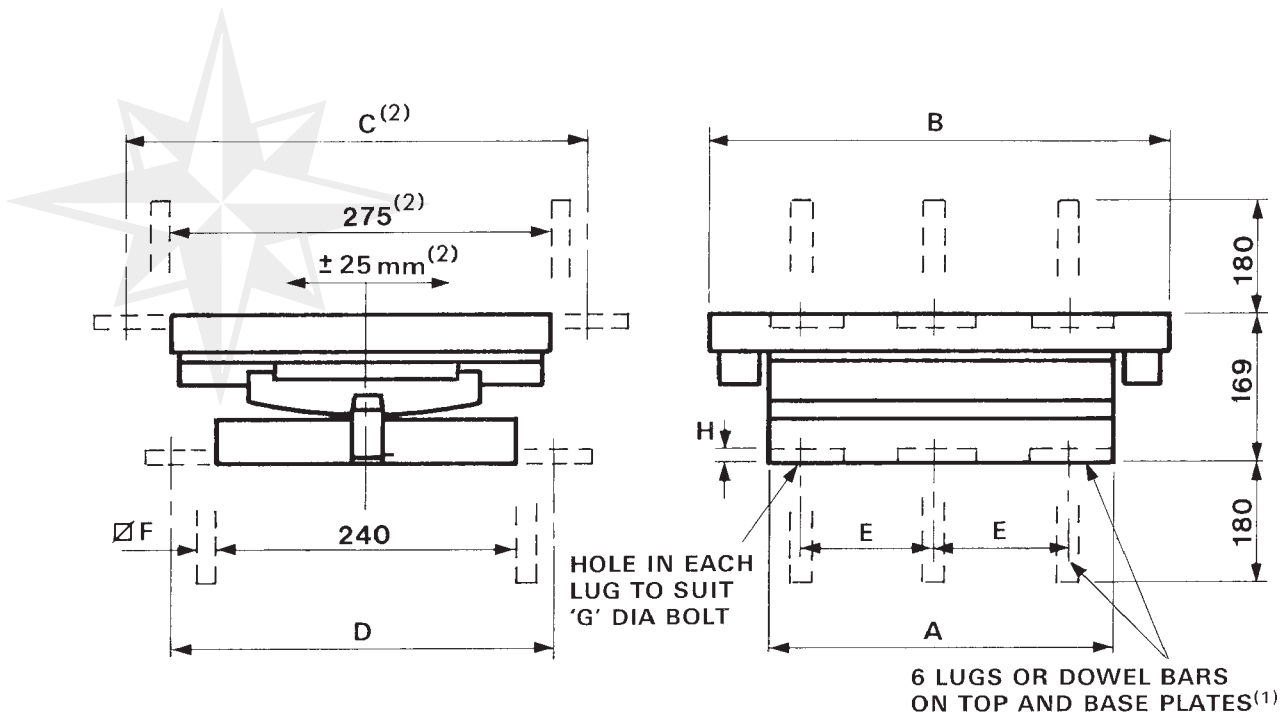
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
11D-125-10	100	53	110	240	240	185	55	16	16	12
11D-125-20	200	53	140	270	240	185	70	16	16	12
11D-125-30	300	53	190	320	240	185	95	16	16	12
11D-125-40	400	53	245	375	240	185	120	16	16	12
11D-125-50	500	53	295	425	240	185	145	16	16	12
11D-125-60	600	53	345	475	240	185	170	16	16	12
11D-125-70	700	53	395	525	240	185	195	16	16	12
11D-125-80	800	53	450	580	240	185	225	16	16	12
11D-125-90	900	53	500	630	240	185	250	16	16	12
11D-125-100	1000	53	550	680	240	185	275	16	16	12



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

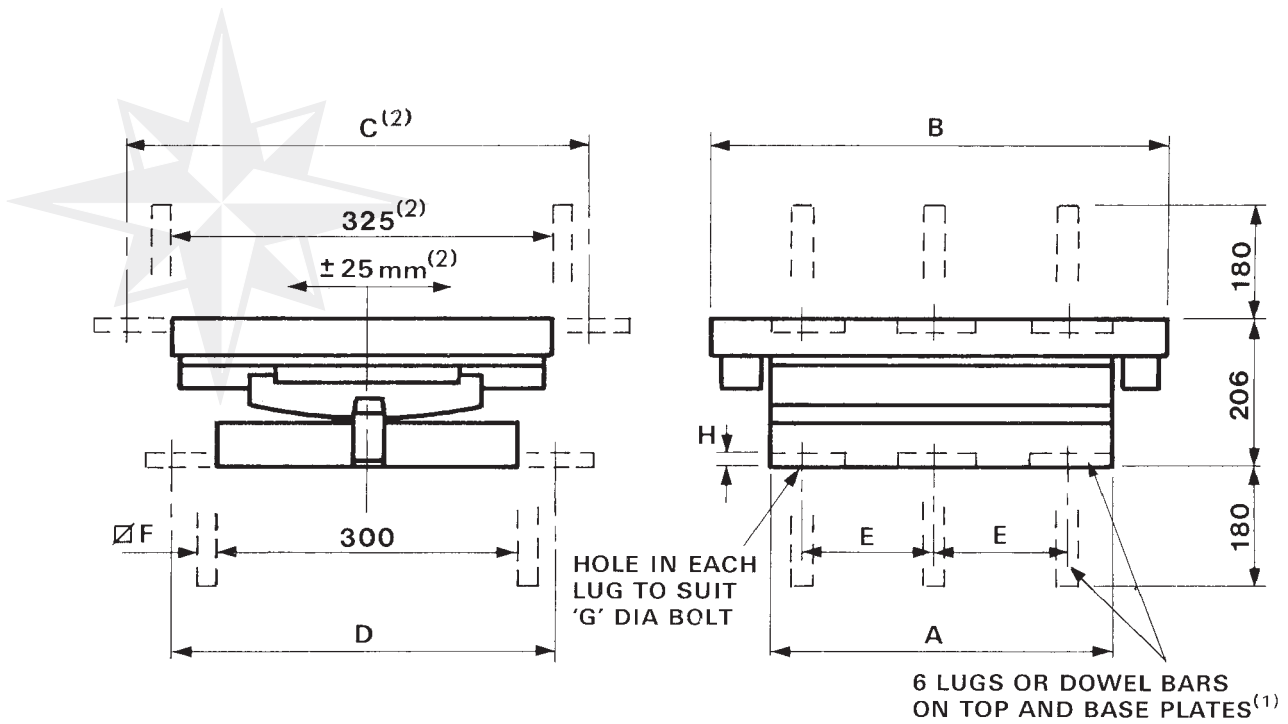
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
11D-160-20	200	95	140	270	270	220	40	16	16	12
11D-160-30	300	95	150	280	270	220	50	16	16	12
11D-160-40	400	95	180	310	270	220	60	16	16	12
11D-160-50	500	95	215	345	270	220	70	16	16	12
11D-160-60	600	95	250	380	270	220	80	16	16	12
11D-160-70	700	95	285	415	270	220	95	16	16	12
11D-160-80	800	95	320	450	270	220	105	16	16	12
11D-160-90	900	95	355	485	270	220	115	16	16	12
11D-160-100	1000	95	390	520	270	220	130	16	16	12
11D-160-110	1100	95	425	555	270	220	140	16	16	12
11D-160-120	1200	95	460	590	270	220	150	16	16	12
11D-160-130	1300	95	495	625	270	220	165	16	16	12
11D-160-140	1400	95	530	660	270	220	175	16	16	12
11D-160-150	1500	95	565	695	270	220	185	16	16	12
11D-160-160	1600	95	600	730	270	220	200	16	16	12
11D-160-180	1800	95	670	800	270	220	220	16	16	12
11D-160-200	2000	95	740	870	270	220	245	16	16	12



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

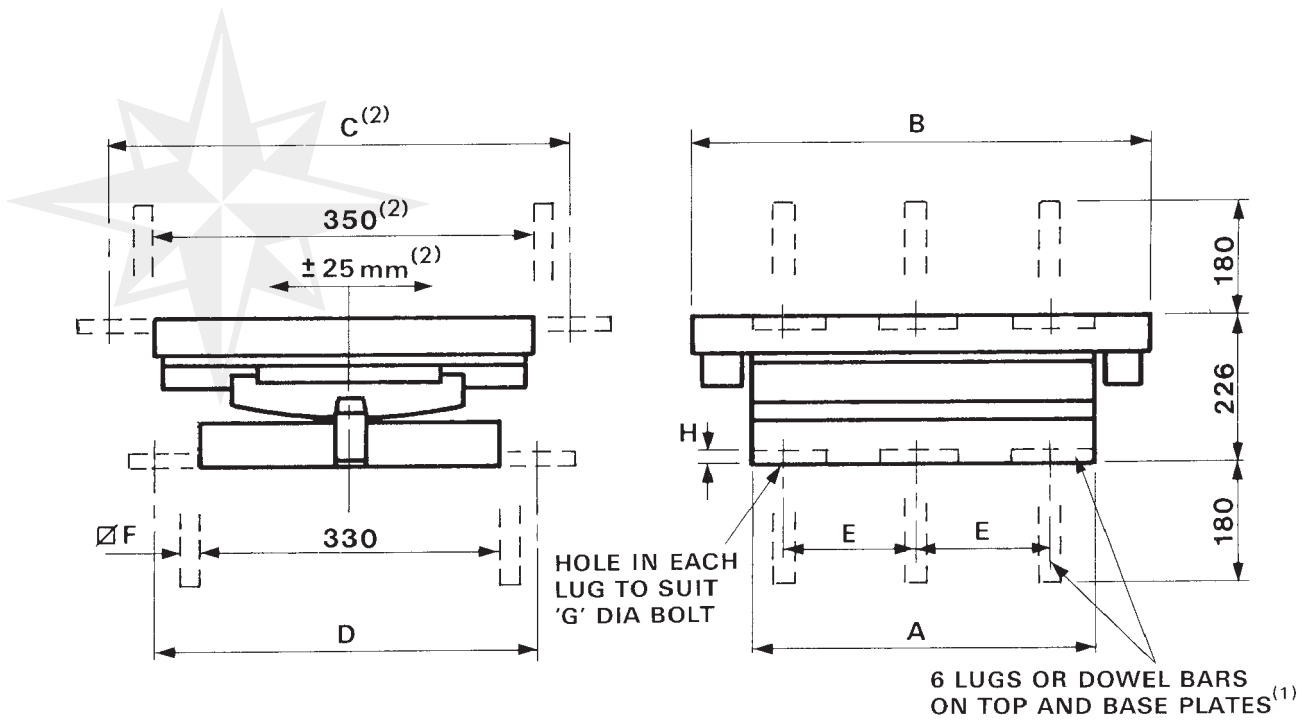
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
11D-240-80	800	95	195	375	335	300	65	16	20	12
11D-240-90	900	95	215	395	335	300	70	16	20	12
11D-240-100	1000	95	235	415	335	300	75	16	20	12
11D-240-110	1100	213	275	455	345	310	90	20	24	12
11D-240-120	1200	213	295	475	345	310	95	20	24	12
11D-240-130	1300	213	315	495	345	310	105	20	24	12
11D-240-140	1400	213	330	510	345	310	110	20	24	12
11D-240-150	1500	213	350	530	345	310	115	20	24	12
11D-240-160	1600	213	375	550	345	310	125	20	24	12
11D-240-170	1700	213	400	580	345	310	130	20	24	12
11D-240-180	1800	213	420	600	345	310	140	20	24	12
11D-240-190	1900	213	445	625	345	310	145	20	24	12
11D-240-200	2000	213	470	650	345	310	155	20	24	12
11D-240-220	2200	380	515	695	365	330	170	25	30	20
11D-240-240	2400	380	560	740	365	330	185	25	30	20
11D-240-260	2600	380	610	790	365	330	200	25	30	20
11D-240-280	2800	380	655	835	365	330	215	25	30	20
11D-240-300	3000	380	700	880	365	330	230	25	30	20
11D-240-320	3200	380	745	925	365	330	245	25	30	20
11D-240-340	3400	380	795	975	365	330	265	25	30	20
11D-240-360	3600	380	840	1020	365	330	280	25	30	20
11D-240-380	3800	380	885	1065	365	330	295	25	30	20
11D-240-400	4000	380	935	1115	365	330	310	25	30	20



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

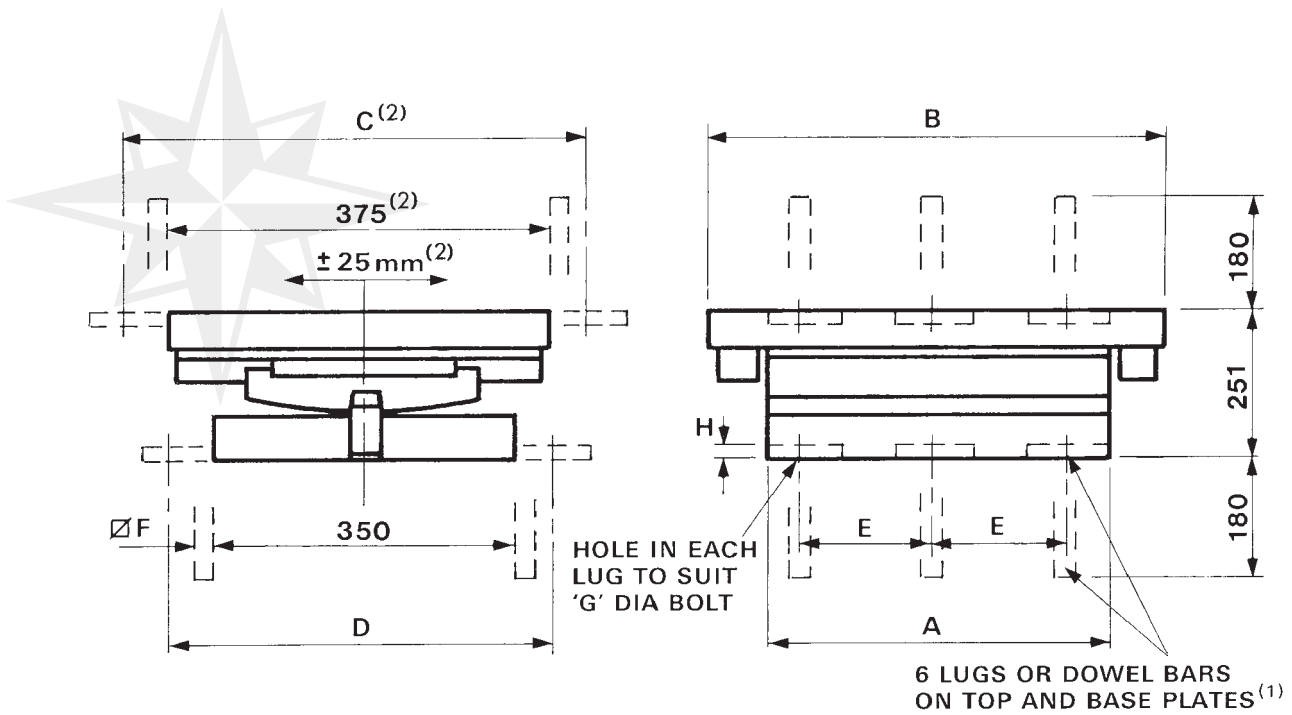
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
11D-300-150	1500	213	275	455	415	370	90	20	24	12
11D-300-160	1600	213	290	470	415	370	95	20	24	12
11D-300-170	1700	213	310	490	415	370	100	20	24	12
11D-300-180	1800	213	325	505	415	370	105	20	24	12
11D-300-190	1900	213	340	520	415	370	110	20	24	12
11D-300-200	2000	213	360	540	415	370	120	20	24	12
11D-300-220	2200	380	395	575	435	390	130	25	30	20
11D-300-240	2400	380	430	610	435	390	140	25	30	20
11D-300-260	2600	380	465	645	435	390	155	25	30	20
11D-300-280	2800	380	500	680	435	390	165	25	30	20
11D-300-300	3000	380	535	715	435	390	175	25	30	20
11D-300-320	3200	380	570	750	435	390	190	25	30	20
11D-300-340	3400	380	605	785	435	390	200	25	30	20
11D-300-360	3600	380	640	820	435	390	210	25	30	20
11D-300-380	3800	380	680	860	435	390	225	25	30	20
11D-300-400	4000	481	715	895	435	390	235	25	30	20
11D-300-420	4200	481	750	930	435	390	250	25	30	20
11D-300-440	4400	481	785	965	435	390	260	25	30	20
11D-300-460	4600	481	820	1000	435	390	270	25	30	20
11D-300-480	4800	481	855	1035	435	390	285	25	30	20
11D-300-500	5000	481	890	1070	435	390	295	25	30	20



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

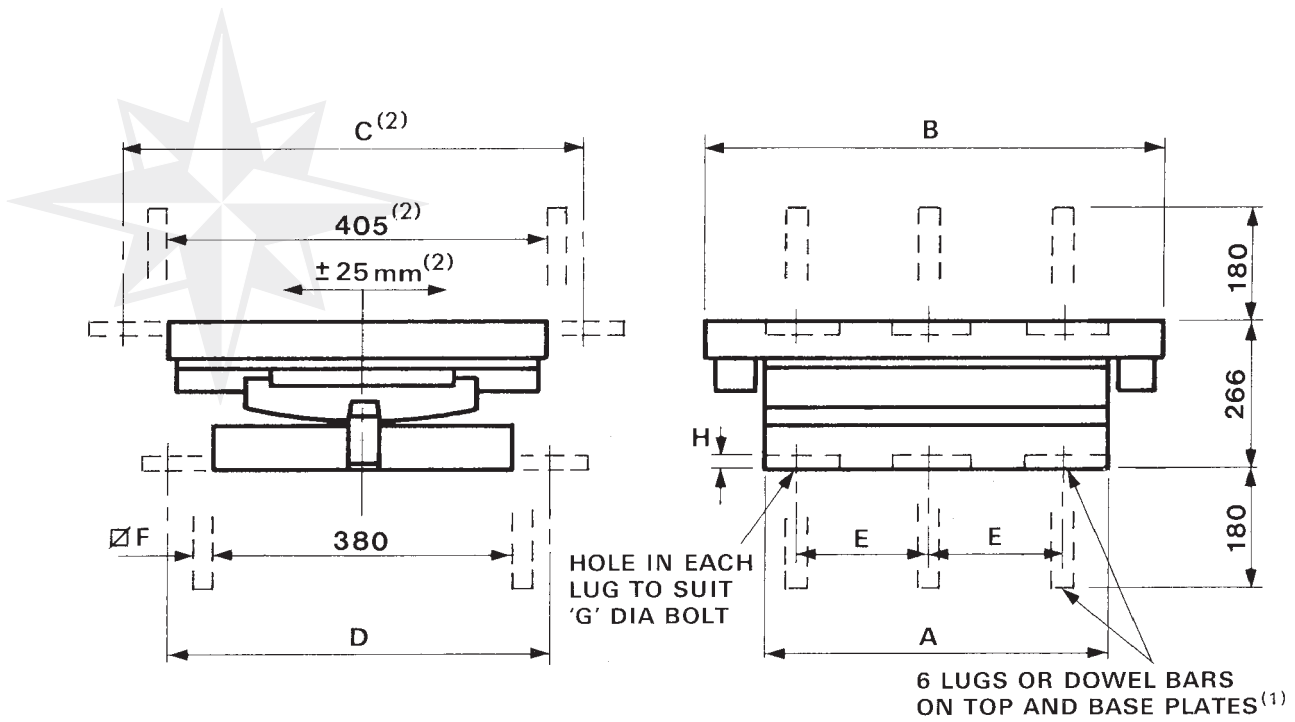
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
11D-330-200	2000	380	335	515	440	420	110	25	30	20
11D-330-220	2200	380	360	540	440	420	120	25	30	20
11D-330-240	2400	380	390	570	440	420	130	25	30	20
11D-330-260	2600	380	415	595	440	420	135	25	30	20
11D-330-280	2800	380	445	625	440	420	145	25	30	20
11D-330-300	3000	380	480	660	440	420	160	25	30	20
11D-330-320	3200	380	510	690	440	420	170	25	30	20
11D-330-340	3400	380	540	720	440	420	180	25	30	20
11D-330-360	3600	380	575	755	440	420	190	25	30	20
11D-330-380	3800	380	605	785	440	420	200	25	30	20
11D-330-400	4000	481	635	815	440	420	210	25	30	20
11D-330-420	4200	481	670	850	440	420	220	25	30	20
11D-330-440	4400	481	700	880	440	420	230	25	30	20
11D-330-460	4600	481	730	910	440	420	240	25	30	20
11D-330-480	4800	481	765	945	440	420	255	25	30	20
11D-330-500	5000	593	795	975	460	440	265	30	36	20
11D-330-520	5200	593	830	1010	460	440	275	30	36	20
11D-330-540	5400	593	860	1040	460	440	285	30	36	20
11D-330-560	5600	593	890	1070	460	440	295	30	36	20
11D-330-580	5800	593	925	1105	460	440	305	30	36	20
11D-330-600	6000	593	955	1135	460	440	315	30	36	20



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

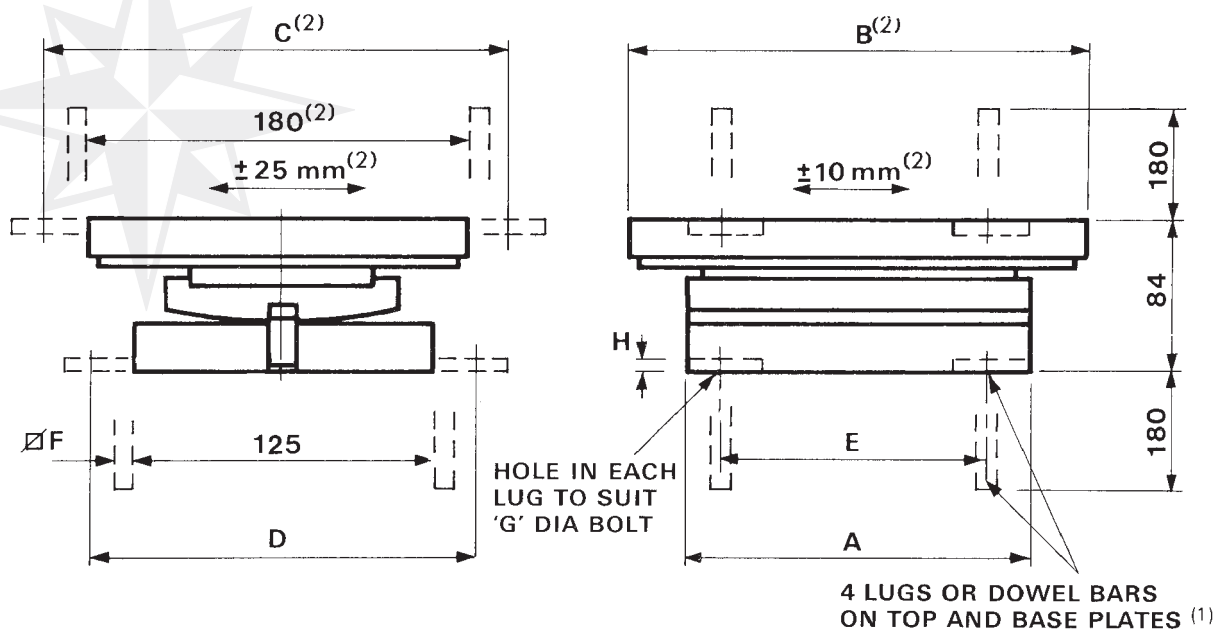
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
11D-350-200	2000	380	300	480	465	440	100	25	30	20
11D-350-220	2200	380	330	510	465	440	110	25	30	20
11D-350-240	2400	380	360	540	465	440	120	25	30	20
11D-350-260	2600	380	390	570	465	440	130	25	30	20
11D-350-280	2800	380	420	600	465	440	140	25	30	20
11D-350-300	3000	380	450	630	465	440	150	25	30	20
11D-350-320	3200	380	480	660	465	440	160	25	30	20
11D-350-340	3400	380	510	690	465	440	170	25	30	20
11D-350-360	3600	380	540	720	465	440	180	25	30	20
11D-350-380	3800	380	570	750	465	440	190	25	30	20
11D-350-400	4000	481	600	780	465	440	200	25	30	20
11D-350-420	4200	481	630	810	465	440	210	25	30	20
11D-350-440	4400	481	660	840	485	460	220	30	36	20
11D-350-460	4600	481	690	870	485	460	230	30	36	20
11D-350-480	4800	481	720	900	485	460	240	30	36	20
11D-350-500	5000	593	750	930	485	460	250	30	36	20
11D-350-520	5200	593	780	960	485	460	260	30	36	20
11D-350-540	5400	593	810	990	485	460	270	30	36	20
11D-350-560	5600	593	840	1020	485	460	280	30	36	20
11D-350-580	5800	593	870	1050	485	460	290	30	36	20
11D-350-600	6000	593	900	1080	485	460	300	30	36	20
11D-350-620	6200	593	930	1110	485	460	310	30	36	20
11D-350-640	6400	593	960	1140	485	460	320	30	36	20
11D-350-660	6600	593	990	1170	485	460	330	30	36	20
11D-350-680	6800	593	1020	1200	485	460	340	30	36	20
11D-350-700	7000	593	1050	1230	485	460	350	30	36	20



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

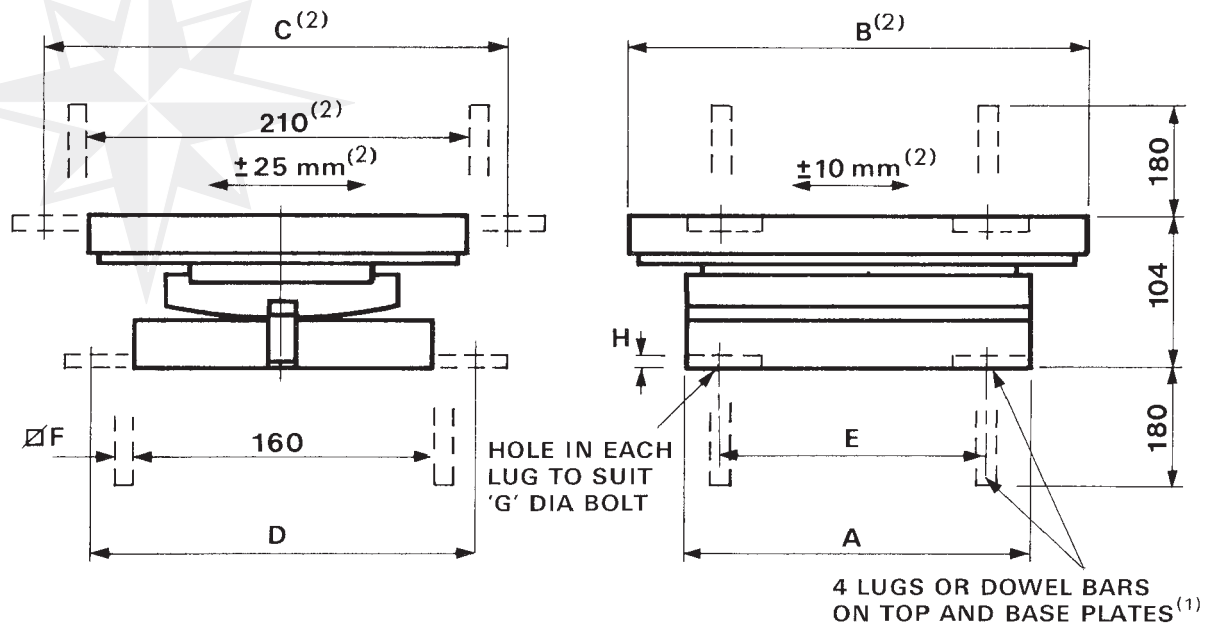
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Maximum Horizontal Load (kN)	Installation Dimensions							
			A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
11D-380-200	2000	380	305	485	495	470	100	25	30	20
11D-380-225	2250	380	330	510	495	470	110	25	30	20
11D-380-250	2500	380	355	535	495	470	115	25	30	20
11D-380-275	2750	380	380	560	495	470	125	25	30	20
11D-380-300	3000	380	405	585	495	470	135	25	30	20
11D-380-325	3250	380	440	620	495	470	145	25	30	20
11D-380-350	3500	380	475	655	495	470	155	25	30	20
11D-380-375	3750	380	505	685	495	470	165	25	30	20
11D-380-400	4000	481	540	720	495	470	180	25	30	20
11D-380-425	4250	481	575	755	495	470	190	25	30	20
11D-380-450	4500	481	610	790	495	470	200	25	30	20
11D-380-475	4750	481	640	820	495	470	210	25	30	20
11D-380-500	5000	593	675	855	515	490	225	30	36	20
11D-380-525	5250	593	710	890	515	490	235	30	36	20
11D-380-550	5500	593	740	920	515	490	245	30	36	20
11D-380-575	5750	593	780	960	515	490	260	30	36	20
11D-380-600	6000	593	810	990	515	490	270	30	36	20
11D-380-625	6250	593	845	1025	515	490	280	30	36	20
11D-380-650	6500	593	875	1055	515	490	290	30	36	20
11D-380-675	6750	593	910	1090	515	490	300	30	36	20
11D-380-700	7000	593	945	1125	515	490	315	30	36	20
11D-380-725	7250	593	980	1160	515	490	325	30	36	20
11D-380-750	7500	593	1010	1190	515	490	335	30	36	20
11D-380-775	7750	593	1045	1225	515	490	345	30	36	20
11D-380-800	8000	583	1080	1260	515	490	360	30	36	20
11D-380-850	8500	593	1145	1325	515	490	380	30	36	20



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

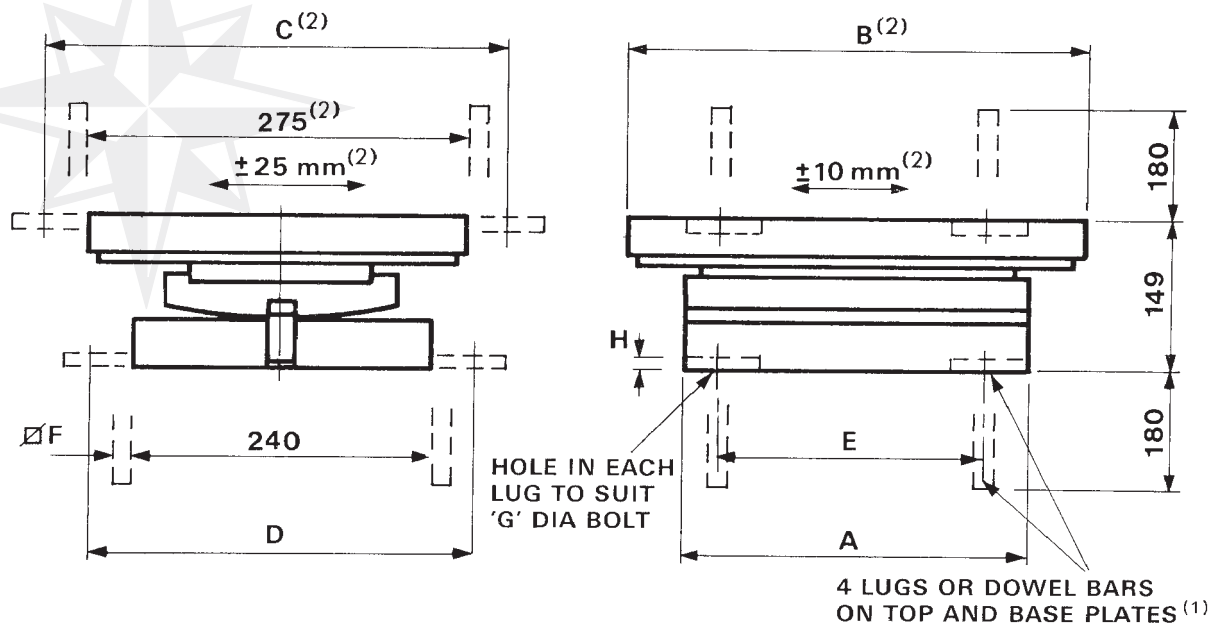
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Installation Dimensions							
		A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
12D-125-10	100	110	135	240	185	55	16	16	12
12D-125-20	200	140	185	240	185	70	16	16	12
12D-125-30	300	190	235	240	185	95	16	16	12
12D-125-40	400	245	290	240	185	120	16	16	12
12D-125-50	500	295	340	240	185	145	16	16	12
12D-125-60	600	345	390	240	185	170	16	16	12
12D-125-70	700	395	440	240	185	195	16	16	12
12D-125-80	800	450	495	240	185	225	16	16	12
12D-125-90	900	500	545	240	185	250	16	16	12
12D-125-100	1000	550	595	240	185	275	16	16	12



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

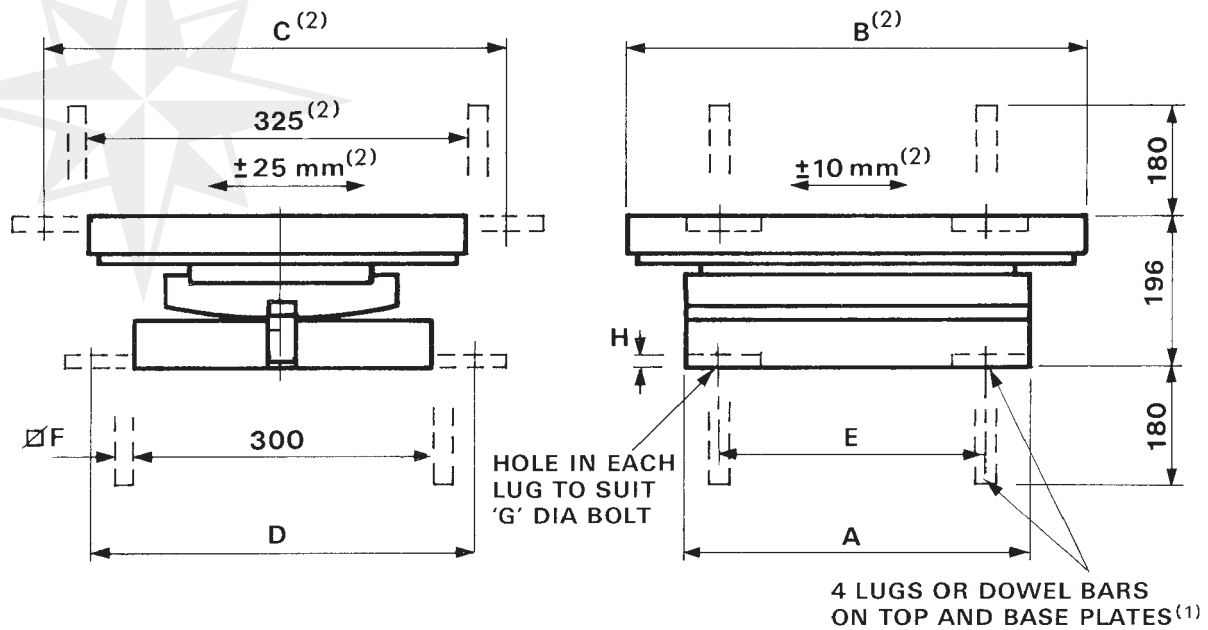
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Installation Dimensions							
		A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
12D-160-20	200	140	155	270	220	80	16	16	12
12D-160-30	300	150	190	270	220	100	16	16	12
12D-160-40	400	180	225	270	220	120	16	16	12
12D-160-50	500	215	260	270	220	140	16	16	12
12D-160-60	600	250	295	270	220	160	16	16	12
12D-160-70	700	285	330	270	220	190	16	16	12
12D-160-80	800	320	365	270	220	210	16	16	12
12D-160-90	900	355	400	270	220	230	16	16	12
12D-160-100	1000	390	435	270	220	260	16	16	12
12D-160-110	1100	425	470	270	220	280	16	16	12
12D-160-120	1200	460	505	270	220	300	16	16	12
12D-160-130	1300	495	540	270	220	330	16	16	12
12D-160-140	1400	530	575	270	220	350	16	16	12
12D-160-150	1500	565	610	270	220	370	16	16	12
12D-160-160	1600	600	645	270	220	400	16	16	12
12D-160-180	1800	670	715	270	220	440	16	16	12
12D-160-200	2000	740	785	270	220	490	16	16	12



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

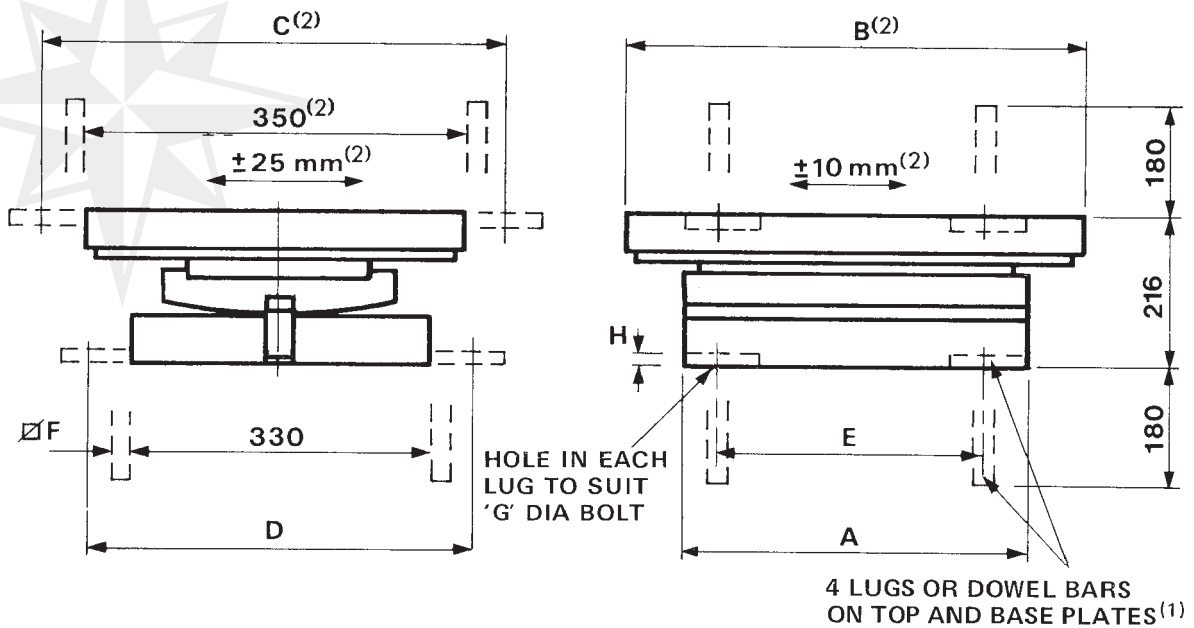
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Installation Dimensions							
		A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
12D-240-80	800	195	250	335	300	130	16	20	12
12D-240-90	900	215	270	335	300	140	16	20	12
12D-240-100	1000	235	290	335	300	150	16	20	12
12D-240-110	1100	275	315	345	310	180	20	24	12
12D-240-120	1200	295	335	345	310	190	20	24	12
12D-240-130	1300	315	355	345	310	210	20	24	12
12D-240-140	1400	330	375	345	310	220	20	24	12
12D-240-150	1500	350	395	345	310	230	20	24	12
12D-240-160	1600	375	415	345	310	250	20	24	12
12D-240-170	1700	400	440	345	310	260	20	24	12
12D-240-180	1800	420	460	345	310	280	20	24	12
12D-240-190	1900	445	480	345	310	290	20	24	12
12D-240-200	2000	470	500	345	310	310	20	24	12
12D-240-220	2200	515	540	365	330	340	25	30	20
12D-240-240	2400	560	585	365	330	370	25	30	20
12D-240-260	2600	610	625	365	330	400	25	30	20
12D-240-280	2800	655	665	365	330	430	25	30	20
12D-240-300	3000	700	710	365	330	460	25	30	20
12D-240-320	3200	745	750	365	330	490	25	30	20
12D-240-340	3400	795	790	365	330	530	25	30	20
12D-240-360	3600	840	835	365	330	560	25	30	20
12D-240-380	3800	885	875	365	330	590	25	30	20
12D-240-400	4000	935	915	365	330	620	25	30	20



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

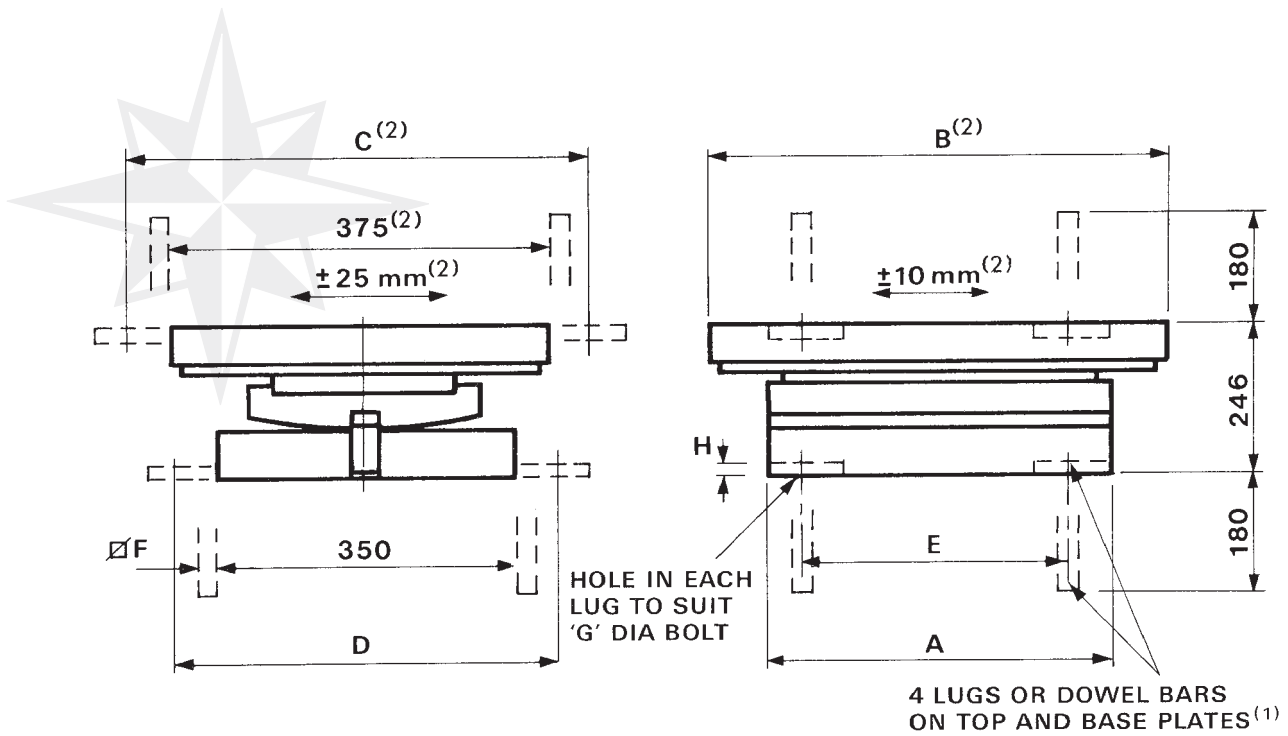
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Installation Dimensions							
		A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
12D-300-150	1500	275	320	415	370	180	20	24	12
12D-300-160	1600	290	335	415	370	190	20	24	12
12D-300-170	1700	310	355	415	370	200	20	24	12
12D-300-180	1800	325	370	415	370	210	20	24	12
12D-300-190	1900	340	385	415	370	220	20	24	12
12D-300-200	2000	360	400	415	370	240	20	24	12
12D-300-220	2200	395	435	435	390	260	25	30	20
12D-300-240	2400	430	465	435	390	280	25	30	20
12D-300-260	2600	465	495	435	390	310	25	30	20
12D-300-280	2800	500	530	435	390	330	25	30	20
12D-300-300	3000	535	560	435	390	350	25	30	20
12D-300-320	3200	570	590	435	390	380	25	30	20
12D-300-340	3400	605	625	435	390	400	25	30	20
12D-300-360	3600	640	655	435	390	420	25	30	20
12D-300-380	3800	680	685	435	390	450	25	30	20
12D-300-400	4000	715	720	435	390	470	25	30	20
12D-300-420	4200	750	750	435	390	500	25	30	20
12D-300-440	4400	785	780	435	390	520	25	30	20
12D-300-460	4600	820	815	435	390	540	25	30	20
12D-300-480	4800	855	845	435	390	570	25	30	20
12D-300-500	5000	890	875	435	390	590	25	30	20



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

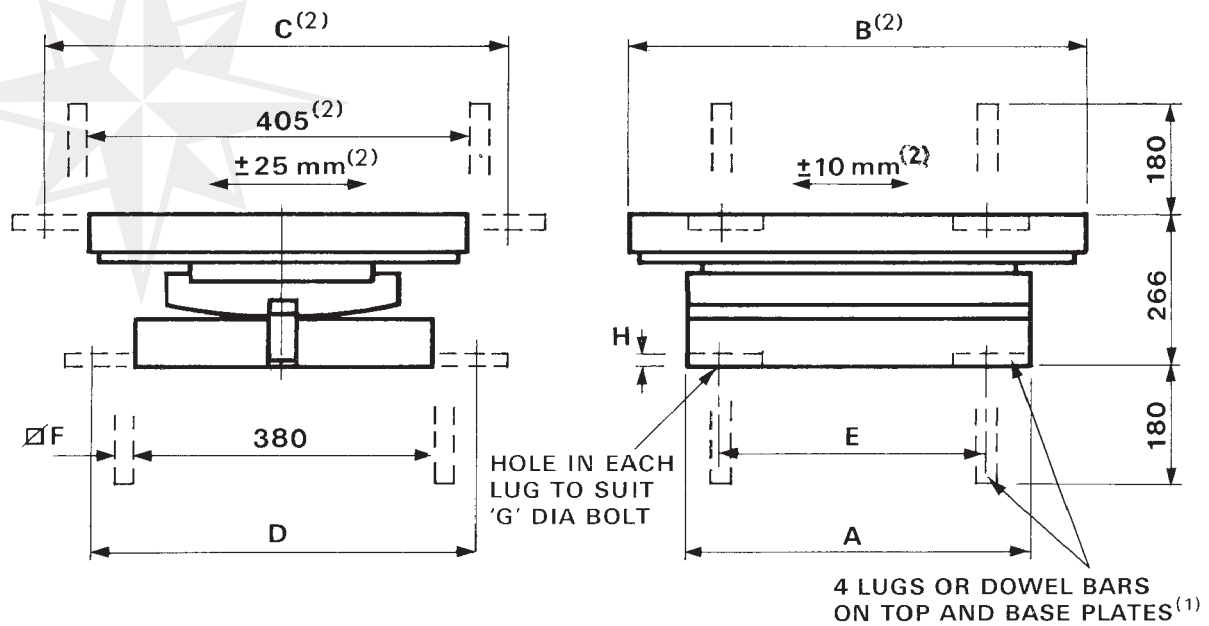
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Installation Dimensions							
		A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
12D-330-200	2000	335	365	440	420	210	25	30	20
12D-330-220	2200	360	395	440	420	240	25	30	20
12D-330-240	2400	390	425	440	420	260	25	30	20
12D-330-260	2600	415	450	440	420	270	25	30	20
12D-330-280	2800	445	480	440	420	290	25	30	20
12D-330-300	3000	480	510	440	420	320	25	30	20
12D-330-320	3200	510	535	440	420	340	25	30	20
12D-330-340	3400	540	565	440	420	360	25	30	20
12D-330-360	3600	575	595	440	420	380	25	30	20
12D-330-380	3800	605	625	440	420	400	25	30	20
12D-330-400	4000	635	650	440	420	420	25	30	20
12D-330-420	4200	670	680	440	420	440	25	30	20
12D-330-440	4400	700	710	440	420	460	25	30	20
12D-330-460	4600	730	735	440	420	480	25	30	20
12D-330-480	4800	765	765	440	420	510	25	30	20
12D-330-500	5000	795	795	460	440	530	30	36	20
12D-330-520	5200	830	820	460	440	550	30	36	20
12D-330-540	5400	860	850	460	440	570	30	36	20
12D-330-560	5600	890	880	460	440	590	30	36	20
12D-330-580	5800	925	905	460	440	610	30	36	20
12D-330-600	6000	955	935	460	440	630	30	36	20



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

Bearing Part no (prefix)	Maximum Vertical Load (kN)	Installation Dimensions							
		A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
12D-350-200	2000	300	340	465	440	200	25	30	20
12D-350-220	2200	330	365	465	440	220	25	30	20
12D-350-240	2400	360	390	465	440	240	25	30	20
12D-350-260	2600	390	420	465	440	260	25	30	20
12D-350-280	2800	420	445	465	440	280	25	30	20
12D-350-300	3000	450	470	465	440	300	25	30	20
12D-350-320	3200	480	495	465	440	320	25	30	20
12D-350-340	3400	510	520	465	440	340	25	30	20
12D-350-360	3600	540	545	465	440	360	25	30	20
12D-350-380	3800	570	570	465	440	380	25	30	20
12D-350-400	4000	600	595	465	440	400	25	30	20
12D-350-420	4200	630	625	465	440	420	25	30	20
12D-350-440	4400	660	650	485	460	440	30	36	20
12D-350-460	4600	690	675	485	460	460	30	36	20
12D-350-480	4800	720	700	485	460	480	30	36	20
12D-350-500	5000	750	725	485	460	500	30	36	20
12D-350-520	5200	780	750	485	460	520	30	36	20
12D-350-540	5400	810	775	485	460	540	30	36	20
12D-350-560	5600	840	800	485	460	560	30	36	20
12D-350-580	5800	870	830	485	460	580	30	36	20
12D-350-600	6000	900	855	485	460	600	30	36	20
12D-350-620	6200	930	880	485	460	620	30	36	20
12D-350-640	6400	960	905	485	460	640	30	36	20
12D-350-660	6600	990	930	485	460	660	30	36	20
12D-350-680	6800	1020	955	485	460	680	30	36	20
12D-350-700	7000	1050	980	485	460	700	30	36	20



(1) Alternative Fixings Shown Dotted - See Page 2

(2) Top plate dimensions are for movements as shown. For designating increased movements see Page 2.

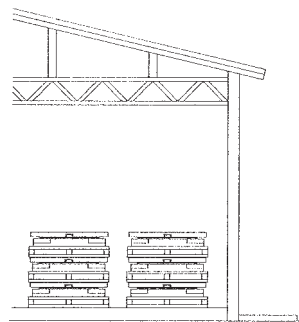
Bearing Part no (prefix)	Maximum Vertical Load (kN)	Installation Dimensions								
		A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	
12D-380-200	2000	305	315	495	470	200	25	30	20	
12D-380-225	2250	330	345	495	470	220	25	30	20	
12D-380-250	2500	355	370	495	470	230	25	30	20	
12D-380-275	2750	380	400	495	470	250	25	30	20	
12D-380-300	3000	405	430	495	470	270	25	30	20	
12D-380-325	3250	440	460	495	470	290	25	30	20	
12D-380-350	3500	475	485	495	470	310	25	30	20	
12D-380-375	3750	505	515	495	470	330	25	30	20	
12D-380-400	4000	540	545	495	470	360	25	30	20	
12D-380-425	4250	575	575	495	470	380	25	30	20	
12D-380-450	4500	610	600	495	470	400	25	30	20	
12D-380-475	4750	640	630	495	470	420	25	30	20	
12D-380-500	5000	675	660	515	490	450	30	36	20	
12D-380-525	5250	710	690	515	490	470	30	36	20	
12D-380-550	5500	740	720	515	490	490	30	36	20	
12D-380-575	5750	780	745	515	490	520	30	36	20	
12D-380-600	6000	810	775	515	490	540	30	36	20	
12D-380-625	6250	845	805	515	490	560	30	36	20	
12D-380-650	6500	875	830	515	490	580	30	36	20	
12D-380-675	6750	910	860	515	490	600	30	36	20	
12D-380-700	7000	945	890	515	490	630	30	36	20	
12D-380-725	7250	980	920	515	490	650	30	36	20	
12D-380-750	7500	1010	945	515	490	670	30	36	20	
12D-380-775	7750	1045	975	515	490	690	30	36	20	
12D-380-800	8000	1080	1005	515	490	720	30	36	20	
12D-380-850	8500	1145	1065	515	490	760	30	36	20	

Installation

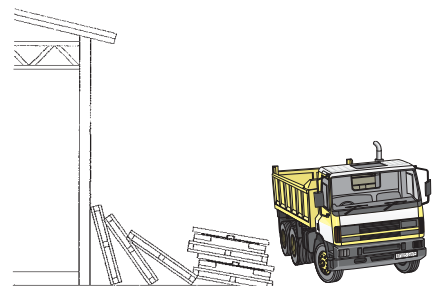
Our structural bearings are manufactured to close tolerances by skilled technicians working in clean conditions. To obtain the requisite performance from bearings it is imperative that they are properly handled at the work site and installed with the same care as when they were assembled in the factory. The following notes will assist those responsible for specifying and supervising the installation of structural bearings.

Storage

Our structural bearings are protected from contamination under normal working conditions by an efficient sealing system. Care should be taken in storage to prevent contamination and damage to the working surfaces.



Correct

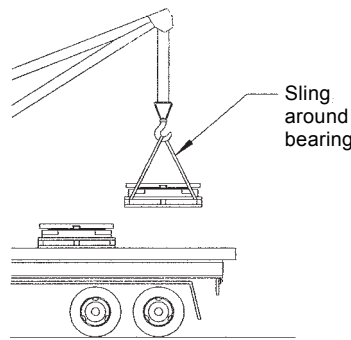


Incorrect

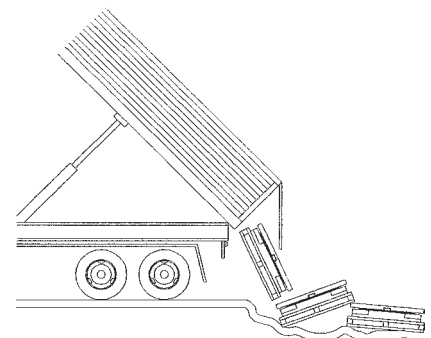
Handling

Robust transportation devices are fitted to all bearings to ensure that the components are maintained in their correct relative positions before and during installation. The devices are normally finished in red paint. Unless special devices have been specified, they should not be used for slinging or suspending the bearings beneath beams.

Due to unpredictable conditions, which may occur during transportation or handling on site, the alignment and presetting (if applicable) of the assembled bearing should be checked against the drawing. Do not endeavour to rectify any discrepancies on site. The bearing should either be returned to Ekspan or, where practical, an Ekspan engineer should be called in to inspect and reassemble. Bearings too heavy to be lifted by hand should be properly slung using lifting equipment.



Correct



Incorrect

Presetting

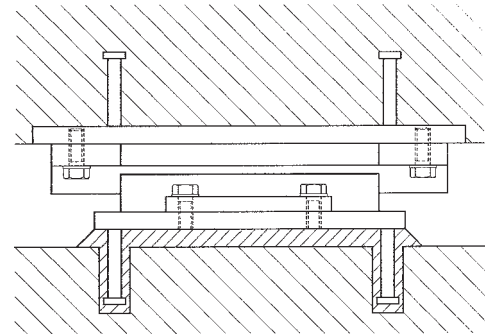
If bearings are required to be preset eg where once only large movements may occur during stressing operations, this should be specified as a requirement and should only be carried out in our works prior to despatch. Do not attempt this operation on site.

Bedding

Bearings must be supported on a flat rigid bed. Steel spreader plates must be machined flat and smooth to mate exactly with the bearings' upper and lower faces. Bearings may also be bedded on epoxy or cement mortar or by dry packing. Whichever system is preferred for the particular structure it is of extreme importance that the final bedding is free from high or hard spots, shrinkage, voids, etc.

Unless there is a specific design requirement, the planar surfaces must be installed in a horizontal plane. The correct installation of bearings is vital for the bearing performance. Costly repairs become necessary all too often due to inadequate specification or poor site supervision. The bearings should not be loaded until the bedding mortar has cured.

Fixing bearings to concrete using permanent anchor plates

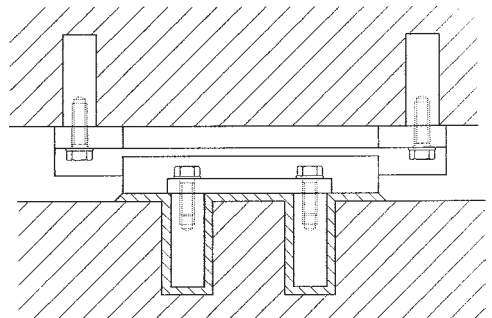


Cast-in-situ structures

Care must be taken to ensure that the bearings are not damaged by the formwork or contaminated by concrete seepage. The interface between the top plate and the formwork should be protected and sealed.

Owing to the loading effects of a wet concrete mass, the top plates should be propped to prevent rotation and plate distortion. Bearing top plates of PTFE sliding bearings are especially vulnerable in this respect.

Fixing cast-in-situ structures ensure that the bearing working surfaces are protected and supported to prevent distortion and rotation



Bearing removability

Where possible, bearings should be fixed in such a manner as to facilitate removal. Our bearings have generally been designed with this in mind. However, when selecting the bearing type preferred, the removability feature should be highlighted in your enquiry.

Removal of transport brackets

These brackets, normally painted red should only be removed when the bearing is properly installed and ready for operation.

Check list for the installation of bearings

DO-

1. Handle carefully and where necessary with adequate craneage.
2. Store in a clean dry place.
3. Ensure that the bearings are installed in the correct location and orientation.
4. Ensure that the bearings are installed on a flat rigid bed before the design loads are applied.
5. Ensure that the fixings are uniformly tightened.
6. Complete any site coatings and make good paint damaged during handling and installation.
7. Protect working surfaces during the placing of in-situ concrete.
8. Keep the bearings and surrounding areas clean.
9. Remove any temporary transit clamps etc. before the bearings are required to operate.
10. Take special care to support top plates when casting in-situ concrete.

DO NOT-

1. Dismantle the bearing on site.
 2. Leave bearings uncovered.
 3. Attempt to modify without our approval.
 4. Install without qualified supervision.
-

Site Coating

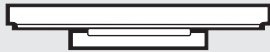
Care should be taken to ensure that working surfaces are not damaged in any site coating operation. After installation damaged coatings must be repaired irrespective of any call for site coatings. Exposed fixing bolts should be protected after final tightening. Any tapped holes exposed after removal of transportation brackets etc. (coloured red) should be sealed with self-vulcanizing silicone sealant.

Routine maintenance of bearings



1. Immediately following installation bearings shall be inspected to ensure that all aspects of 'Installation of bearings' have been adhered to and bearings shall subsequently be re-inspected not less frequently than every two years after their installation.
2. Paint and /or other specified protective coatings must be maintained in good and efficient condition and free from scratches or chips. Any areas of the protective coating showing damage or distress must be rectified.
3. Areas surrounding the bearings must be kept clean and dry and free from the adverse effects of external influences such as airborne debris or water/salt (for example emanating from leaking joints).
4. The wearing surfaces of the bearing must be checked to ensure that they are continuing to operate efficiently.
5. Fixing bolts must be checked for tightness.
6. Any bedding material showing signs of distress or ineffectiveness must be replaced and the reason for its failure investigated and corrected.
7. Routine inspections shall include a check that translational and rotational capacities of the bearing have not been exceeded and show no sign of being likely to exceed the requirements specified at the design stage.

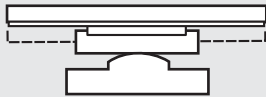
BRIDGE & INDUSTRIAL BEARINGS & JOINTS



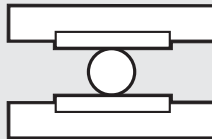
A Series Sliding bearings



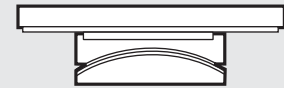
B Series Sliding bearings with elastomer base



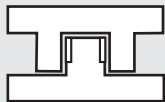
D Series Line rocker bearings



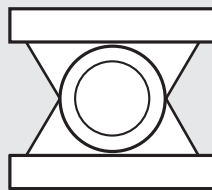
J Series roller bearings



E Series ANTICLASTIC BEARINGS



F Series Pin and Guide bearings



Link bearings



G Series Spherical bearings



K Series pot bearings



Expansion joints

A world wide service offering effective solutions in:-
Inspection • Design • Manufacture • Supply
Installation • Commissioning • Planned Maintenance

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D series bearings are available from:

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