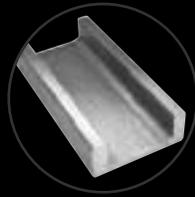
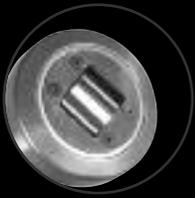




HeavyD™ COMBINED BEARINGS
FOR HEAVY-DUTY AXIAL AND RADIAL LOAD INDUSTRIAL APPLICATIONS



INTRODUCTION

HeavyD™ high capacity, combined linear bearings provide versatility in handling axial and radial loads simultaneously. The HeavyD™ series also includes a variety of profile rails, flange plates and clamp flanges. Uses for the HeavyD™ span across numerous industries and applications that require medium to low precision.

INDUSTRIES:

- OEM Machinery
 - Shrink-wrappers
 - Palletizers/de-palletizers
 - Cranes and hoists
 - Fork lift vehicles/other lifts
 - Horizontal and vertical feed units
 - High load material handling units (including storage)
- Automotive
- Aerospace
- Food & Beverage
- Medical
- Material Handling
- Packaging
- Pulp & Paper
- Military
- Mining & Metals
- RV Slideouts



COMBINED BEARING SYSTEM SELECTION GUIDE

BEARING				RAIL		FLANGE PLATES		CLAMPS
FIXED	ADJUSTABLE	RADIAL	STUD	U-CHANNEL	I-CHANNEL	RECTANGLE	SQUARE	
HD-053			HDS-052/HDS-252	HDR-5		HDP-5	HDP-SQ	
HD-054	HD-454	HD-254	HDS-062/HDS-252	HDR-0 / HDRP-0		HDP-0	HDP-0Q	HDC-0
HD-055	HD-455	HD-255		HDR-1 / HDRP-1	HDRI-1/HDRI-1	HDP-1	HDP-1Q	HDC-1
HD-056	HD-456	HD-256	HDS-072/HDS-272	HDR-2 / HDRP-2	HDRI-2/HDRI-2	HDP-2	HDP-2Q	HDC-2
HD-057	HD-457			HDR-2 / HDRP-2	HDRI-2/HDRI-2			
HD-058	HD-458	HD-258	HDS-080/HDS-280	HDR-3 / HDRP-3	HDRI-3/HDRI-3	HDP-3	HDP-3Q	HDC-3
HD-059	HD-459			HDR-4 / HDRP-4	HDRI-4/HDRI-4			
HD-060	HD-460			HDR-4 / HDRP-4	HDRI-4/HDRI-4			
HD-061	HD-461	HD-261	HDS-090/HDS-290	HDR-4 / HDRP-4	HDRI-4/HDRI-4	HDP-4	HDP-4Q	HDC-4
HD-062	HD-462	HD-262		HDR-5 / HDRP-5	HDRI-5/HDRI-5	HDP-5	HDP-6Q	
HD-063	HD-463	HD-263		HDR-6 / HDRP-6	HDRI-6/HDRI-6	HDP-6	HDP-6Q	
HD-085				HDR-8			HDP-85Q	
HD-089							HDP-89Q	
HD-090							HDP-90Q	
HD-091							HDP-91Q	
HD-092							HDP-92Q	
HD-093							HDP-93Q	
HD-094							HDP-94Q	

This selection guide is for recommendation purposes only. Customer is responsible for designing according to system requirements.

IDA Motion, Inc. can accept no responsibility for possible errors in catalogs, brochures and other printed material. IDA Motion, Inc. reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequent changes being necessary in specifications already agreed.

HeavyD™ COMBINED BEARING WITH FIXED AXIAL BEARING



General Information:

- Core weld unalloyed steel and use welding electrodes to avoid cracks in welded joints.
- Disassemble bearing components prior to welding.
- In vertical applications, axial bearing needs to be parallel to the rail.

Lubrication:

- Bearings are supplied lubricated with grease grade 3.
- Bearings HD-055 to HD-063 can be relubricated with grease zerk.

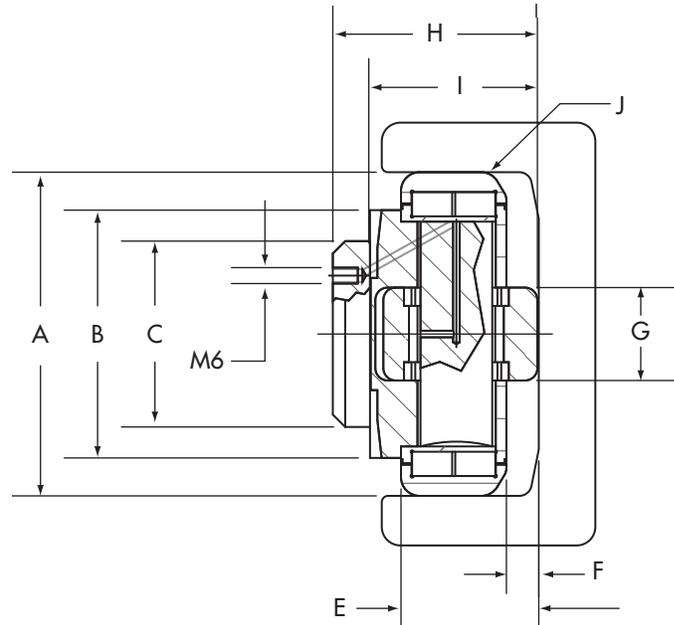
Temperature: -10°C to 80°C (14°F to 176°F)

Materials:

- Outer ring: Case-hardened steel UNI 20 MnCr 5, case-hardened at 58-62 HRC.
- Inner ring: Hardened steel En 31 - SAE 52100, case-hardened at 60-64 HRC.
- Internal cylindrical rollers: Flat ground heads are case-hardened steel, En 31 - SAE 52100, hardened at 59-64 HRC.
- Weldable hub: Low carbon steel
(C dimension with tolerance = +0/-0.05 mm).

Seals:

- Radial bearing has steel labyrinth/axial bearing uses rubber seals.



	DIMENSIONS (mm)									WT. (kg)	MAX. RPM	MAX. STATIC LOAD (kN)		MAX. DYNAMIC LOAD (kN)		SYSTEM MAX. ¹ LOAD (kN)	
	A	B	C	E	F	G	H	I	J			RADIAL	AXIAL	RADIAL	AXIAL	RADIAL	AXIAL
	HD-053	52.5	40	30	17	5	15	33	27			R2	0.36	800	33	14	24
HD-054	62	42	30	20	2.5	20	37.5	30.5	R3	0.53	900	65	22	39	15	7.2	2.4
HD-055	70.1	48	35	23	2.5	22	44	36	R4	0.80	900	93	26	56	18	8.6	2.8
HD-056	77.7	54	40	23	3	24	48	36.5	R4	1.00	800	102	32	59	20	8.9	3
HD-057	77.7	54	40	23	3	24	40.7	29	R4	0.90	800	102	32	59	20	8.9	3
HD-058	88.9	59	45	30	3.5	26	57	44	R4	1.62	700	133	43	84	28	15.6	5.2
HD-059	101.2	67	50	28	3	30	46	33	R5	1.80	700	153	50	92	32	15.5	5.1
HD-060	107.7	71	55	31	4	34	53	39	R5	2.30	650	174	66	100	39	16.5	5.5
HD-061	107.7	71	60	31	4	34	69	55	R5	2.69	650	162	84	94	46	16.5	5.5
HD-062	123	80	60	37	5	40	72.3	56	R5	3.88	500	242	90	135	47	23.5	7.8
HD-063	149	103	60	45	5.5	50	78.5	58.5	R3	6.65	450	353	131	183	82	41.1	13.7

¹System maximum static load is based upon the use of IDA, Inc. non-hardened profile rails.

IDA Motion, Inc. can accept no responsibility for possible errors in catalogs, brochures and other printed material. IDA Motion, Inc. reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequent changes being necessary in specifications already agreed.

HeavyD™ COMBINED BEARINGS WITH ADJUSTABLE AXIAL BEARING



General Information:

- Core weld unalloyed steel and use welding electrodes to avoid cracks in welded joints.
- Disassemble bearing components prior to welding.
- In vertical applications, axial bearing needs to be parallel to the rail.

Lubrication:

- Bearings are supplied lubricated with grease grade 3.
- Bearings HD-455 to HD-463 can be relubricated with grease zerk.

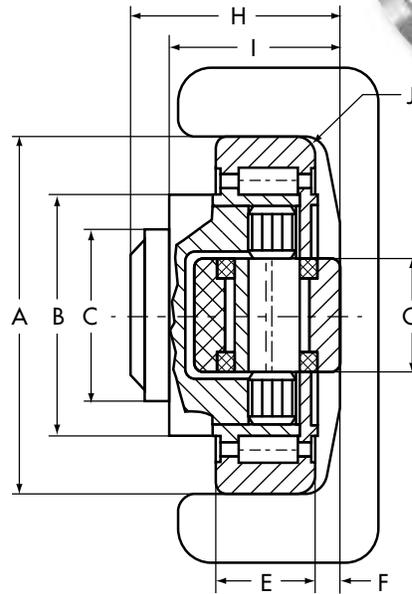
Temperature: -10°C to 80°C (14°F to 176°F)

Materials:

- Outer ring: Case-hardened steel UNI 20 MnCr 5, case-hardened at 58-62HRC.
- Inner ring: Hardened steel En 31 - SAE 52100, case-hardened at 60-64 HRC.
- Internal cylindrical rollers: Flat ground heads are case-hardened steel, En 31 - SAE 52100, hardened at 59-64 HRC.
- Weldable hub: Low carbon steel (C dimension with tolerance = +0/-0.05 mm).

Seals:

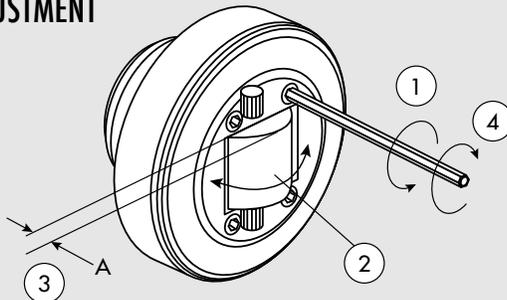
- Radial bearing has steel labyrinth/axial bearing uses rubber seals.



	DIMENSIONS (mm)									WT. (kg)	MAX. RPM	MAX. STATIC LOAD (kN)		MAX. DYNAMIC LOAD (kN)		SYSTEM MAX. ¹ LOAD (kN)	
	A	B	C	E	F	G	H	I (min-max)	J			RADIAL	AXIAL	RADIAL	AXIAL	RADIAL	AXIAL
	HD-454	62.0	42	30	20	4.0-5.5	20	37.5-39.0	30.5 - 32.0			R3	0.53	900	65	25	39
HD-455	70.1	48	35	23	4.0-5.5	20	44-45.5	36.0 - 37.5	R4	0.80	900	93	25	56	16	10.7	3.2
HD-456	77.7	53	40	23	3.5-5.0	26	48-50	36.5 - 38.5	R4	1.02	800	102	36	59	23	11.7	3.8
HD-457	77.7	54	40	23	3.5-5.0	26	40-41.5	29.0 - 30.5	R4	0.87	800	102	36	59	23	11.7	3.8
HD-458	88.9	59	45	30	4.0-5.5	26	57-59	44.0 - 46.0	R4	1.62	700	133	43	84	28	15.6	5.2
HD-459	101.9	67	50	26	4.5-6.5	30	46-48.5	33.0 - 35.5	R3	1.75	700	153	43	91	28	15.5	5.2
HD-460	107.7	71	55	31	4.0-6.0	30	54-56	40.0 - 42.0	R5	2.27	650	162	57	94	39	16.5	5.5
HD-461	107.7	71	60	31	4.0-6.0	30	69-71.5	55.0 - 57.5	R5	2.69	650	162	57	94	39	21.7	7.1
HD-462	123.0	80	60	37	4.5-8.5	34	72.3-75.3	56.0 - 59.0	R5	3.88	500	242	94	132	53	23.5	7.8
HD-463	149.0	103	60	45	6.0-10.0	34	78.5-81.5	58.5 - 61.5	R3	6.50	450	353	72	183	41	54	17.8

¹ System maximum static load is based upon the use of IDA, Inc. non-hardened profile rails.

AXIAL BEARING ADJUSTMENT



1. Loosen screws
2. Turn axial roller until desired height is measured
3. Check height (A) for accuracy
4. Loctite screws and tighten

IDA Motion, Inc. can accept no responsibility for possible errors in catalogs, brochures and other printed material. IDA Motion, Inc. reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequent changes being necessary in specifications already agreed.

HeavyD™ JUMBO COMBINED BEARINGS WITH ADJUSTABLE AXIAL BEARING



General Information:

- Height of axial roller (Dim. I) is adjustable. Remove screws, lift radial roller, turn axial roller, put radial roller back on, tighten screws.
- Core weld unalloyed steel and use welding electrodes to avoid cracks in welded joints.
- Disassemble bearing components prior to welding.
- In vertical applications, axial bearing needs to be parallel to the rail.

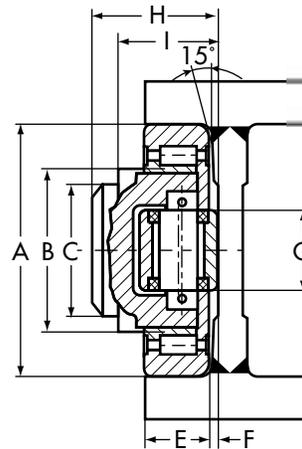
Lubrication:

- Bearings are supplied lubricated with grease grade 3.
- Bearings HD-085 to HD-094 can be relubricated with grease zerk.

Temperature: -10°C to 80°C (14°F to 176°F)

Materials:

- Outer ring: Case-hardened steel UNI 20 MnCr 5, case-hardened at 58-62 HRC.
- Inner ring: Hardened steel En 31 - SAE 52100, case-hardened at 60-64 HRC.
- Internal cylindrical rollers: Flat ground heads are case-hardened steel, En 31 - SAE 52100, hardened at 59-64 HRC.
- Weldable hub: Low carbon steel (C dimension with tolerance = +0/-0.05 mm).



	DIMENSIONS (mm)								WT. (kg)	MAX. RPM	MAX. STATIC LOAD (kN)		MAX. DYNAMIC LOAD (kN)		SYSTEM MAX. ¹ LOAD (kN)	
	A	B	C	E	F	G	H	I (min-max)			RADIAL	AXIAL	RADIAL	AXIAL	RADIAL	AXIAL
HD-085	180	124	100	57.3	6.5-9.5	60	95.7-98.7	76.3-79.3	11.5	100	441	165	257	99	51.9	16.2
HD-089	165	113	80	40.0	5.0-8.0	50	69.0-72.0	53.0-56.0	9.2	120	388	133	213	85	41.71	13.91
HD-090	190	124	100	48.0	6.5-9.5	60	84.5-87.5	64.5-67.5	10.6	100	500	180	266	100	58.00	19.4
HD-091	220	146	110	58.0	6.5-9.5	75	94.5-97.5	74.5-77.5	17.3	90	681	257	326	138	84.00	28
HD-092	250	168	120	60.0	7.0-10.0	75	102.0-105.0	77.0-80.0	23.9	75	748	257	369	138	105.50	33.9
HD-093	280	188	150	72.0	7.5-11.5	90	119.0-123.0	89.5-93.5	36	50	1066	488	489	182	139.40	46.5
HD-094	320	218	140	85.0	10.0-14.0	90	135.0-139.0	110.0-114.0	53	50	1370	422	542	210	192.00	57.7

¹System maximum static load is based upon the use of IDA, Inc. non-hardened profile rails.

HeavyD™ RADIAL BEARING

Lubrication:

- All bearings can be relubricated (zerk fitting)
- Bearings supplied with grease, grade 3 (ex. Shell Alvania 3).

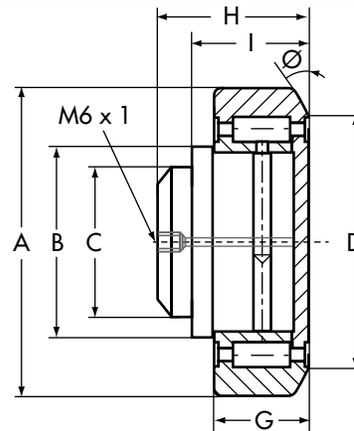
Temperature: -10°C to 80°C (14°F to 176°F)

Materials:

- Outer ring: Case-hardened steel 20 CrMnTi, 58-62 HRC.
- Inner ring: AISI steel, 60-62 HRC.
- Internal cylindrical rollers: Flat ground heads, En 31 - SAE 52100 hardened steel, 59-64 HRC.
- Weldable hub: Low carbon steel (C dimension with tolerance = +0/-0.05 mm).

Seals:

- Radial bearing has steel labyrinth.



	DIMENSIONS (mm)								WT. (kg)	MAX. RPM	MAX. STATIC LOAD (kN)	MAX. DYNAMIC LOAD (kN)	SYSTEM MAX. ¹ LOAD (kN)
	A	B	C	D	H	I	G	Ø					
HD-254	62.0	42	30	50	36.5	29.5	20	20°	0.55	900	65.0	39.0	10.3
HD-255	70.1	48	35	57	42.0	34.0	23	20°	0.8	900	93.0	56.0	12.4
HD-256	77.7	53	40	61	45.5	33.5	23	20°	1.05	800	101.5	58.0	12.9
HD-258	88.9	59	45	68	54.0	41.0	30	20°	1.7	700	133.0	84.0	22.4
HD-261	107.7	71	60	82	65.5	51.5	31	20°	2.7	650	162.0	94.0	23.8
HD-262	123.0	80	60	92	67.8	51.5	37	20°	3.9	500	242.0	132.0	33.9
HD-263	149.0	103	60	116	74.0	54.0	43	15°	6.5	400	353.0	179.0	59.2

¹System maximum static load is based upon the use of IDA, Inc. non-hardened profile rails.

IDA Motion, Inc. can accept no responsibility for possible errors in catalogs, brochures and other printed material. IDA Motion, Inc. reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequent changes being necessary in specifications already agreed.

HeavyD™ COMBINED LINEAR BEARING WITH THREADED STUD



General Information:

- Threaded stud eliminates need for welding
- In vertical applications, axial bearing needs to be parallel to the rail.

Lubrication:

- Bearings are supplied lubricated with grease grade 3.

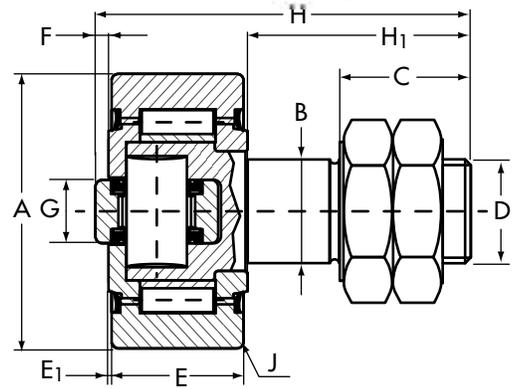
Temperature: -10°C to 80°C (14°F to 176°F)

Seals:

- Radial and axial rollers have rubber seals.

Materials:

- Outer rings: Steel UNI 18NiCrMo5 case-hardened and tempered with final hardness 60-62 HRC.
- Inner rings: Steel UNI 100Cr6 hardened and tempered with final hardness 58-62 HRc
- Stud: Steel UNI 18NiCrMo5-20MnCr5 case-hardened and tempered with final hardness 58-62 HRc..
- Thrust Washers: Steel UNI 20MnCr5 casehardened and tempered with final hardness 58-62 HRc.
- Internal cylindrical rollers: Steel UNI 100Cr6 hardened and tempered with final hardness 60-64 HRc.



	DIMENSIONS (mm)											WT. (kg)	MAX. rpm	MAX. STATIC LOAD (kN)		MAX. DYNAMIC LOAD (kN)	
	A	B	C	D	E	E1	F	G	H	H1	J			RADIAL	AXIAL	RADIAL	AXIAL
	HDS-052	52	20	21	M20x1.5	22	0.8	2	13	66	40.5			2	0.55	900	50
HDS-062	62	24	25	M24x1.5	26	1	2.5	14.5	80	49.5	2	0.95	900	79	11.7	50	9
HDS-072	72	24	25	M24x1.5	26	1	2.5	14.5	80	49.5	2	1.15	900	79	11.7	50	9
HDS-080	80	30	32	M30x1.5	32	1	3	18	100	63	2	1.6	800	127	23.5	83	15.2
HDS-090	90	30	32	M30x1.5	32	1	3	18	100	63	2	1.9	750	127	23.5	83	15.2

HeavyD™ RADIAL LINEAR BEARING WITH THREADED STUD



General Information:

- Threaded stud eliminates need for welding.

Lubrication:

- Bearings are supplied lubricated with grease grade 3.

Temperature: -10°C to 80°C (14°F to 176°F)

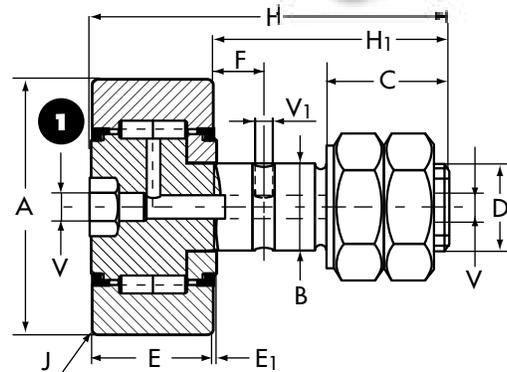
Seals:

- Radial and axial rollers have rubber seals.

Materials:

- Outer ring: Steel UNI 18NiCrMo5 case-hardened and tempered with final hardness 60-62 HRC.
- Stud: Steel UNI 18NiCrMo5-20MnCr5 case-hardened and tempered with final hardness 58-62 HRc.
- Thrust Washers: Steel UNI 20MnCr5 casehardened and tempered with final hardness 58-62 HRc.
- Internal cylindrical rollers: Steel UNI 100Cr6 hardened and tempered with final hardness 60-64 HRc.

- Options Include:**
- Plug
 - Grease Nipple UNI 7663
 - Grease Nipple VENN/NIP

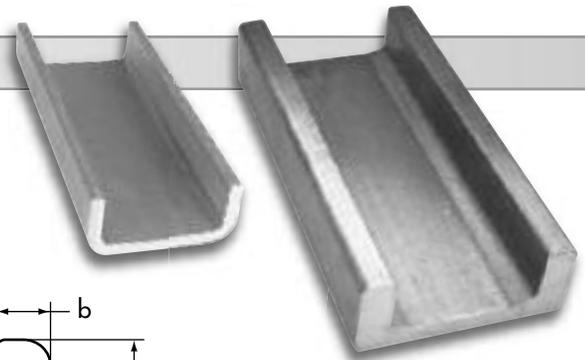


	DIMENSIONS (mm)											WT. (kg)	MAX. rpm	MAX. STATIC LOAD (kN)	MAX. DYNAMIC LOAD (kN)	
	A	B	C	D	E	E1	F	H	H1	J	V					V1
HDS-252	52	20	21	M20x1.5	24	0.8	9	66	40.5	1	8	4	0.45	3500	62	44
HDS-262	62	24	25	M24x1.5	29	0.8	11	80	49.5	1	8	4	0.8	2500	78	59
HDS-272	72	24	25	M24x1.5	29	0.8	11	80	49.5	1.2	8	4	1.05	2000	92	65
HDS-280	80	30	32	M30x1.5	35	1	15	100	63	1.2	8	4	1.6	1800	125	92
HDS-290	90	30	32	M30x1.5	35	1	15	100	63	1.2	8	4	1.95	1800	125	92

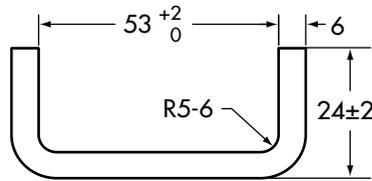
IDA Motion, Inc. can accept no responsibility for possible errors in catalogs, brochures and other printed material. IDA Motion, Inc. reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequent changes being necessary in specifications already agreed.

HeavyD™ PROFILE RAIL, U-CHANNEL

- Steel construction, 18MnNb6
 - Supplied lightly oiled with WD40.
 - Rails are not hardened. Available in lengths up to 6 m (19.7 ft.).
- NOTE:** Inside of rails should be lightly greased, do not paint.

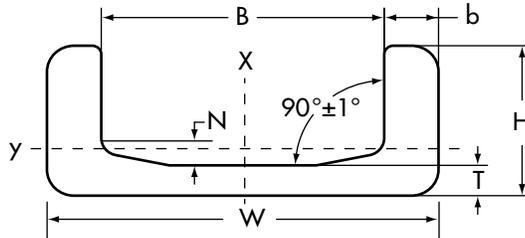


HDR-S



Weight = 5.3 kg/m

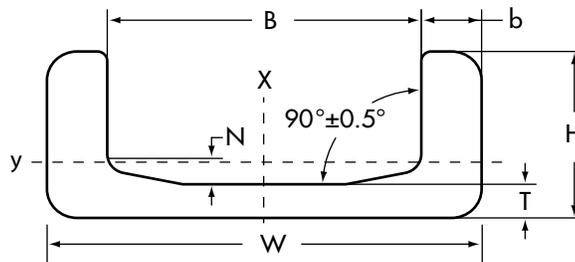
HDR-0 TO HDR-6



	DIMENSIONS (mm)						WT. (kg/m)	DISTANCE TO CENTER OF GRAVITY (cm)		MOMENT OF INERTIA (cm ⁴)		MOMENT OF RESISTANCE (cm ³)		
	W	b	B	H	T	N		ex	ey	Ix	Iy	Wx	Wy	
													MIN	MAX
HDR-0	86.5	12.0 ± 0.5	62.5 + 1.0	36.0 ± 0.8	7.0 ± 0.5	7.0	10.5	4.3	1.3	137	15	32	7	12
HDR-1	103.2	16.2 ± 0.5	70.8 ± 0.5	40.0 ± 0.8	7.7 ± 0.5	8.5	14.8	5.2	1.5	274	27	53	11	18
HDR-2	121.3	21.3 ± 0.5	78.7 ± 0.5	41.0 ± 0.8	10.8 ± 0.5	9.0	20.9	6.1	1.5	494	38	81	15	25
HDR-3	135.4	23.0 ± 0.5	89.4 ± 0.5	53.0 ± 0.8	12.7 ± 0.5	9.0	28.6	6.8	2.0	865	89	128	27	45
HDR-4	157.2	24.4 ± 0.5	108.4 ± 0.5	61.2 ± 0.8	14.0 ± 0.5	9.0	35.9	7.9	2.2	1494	151	190	39	67
HDR-5	175.0	25.6 ± 0.5	123.8 ± 0.5	66.2 ± 0.8	16.2 ± 0.5	9.0	42.9	8.8	2.4	2185	206	250	48	87
HDR-6	201.5	25.7 ± 0.5	150.1 ± 0.5	71.2 ± 0.8	19.4 ± 0.5	11.5	52.3	10.1	2.4	3425	270	340	57	112
HDR-8	252.5	35.7 ± 0.6	181.1 ± 0.6	90.0 ± 1.0	19.4 ± 0.6	10.0	78.5	12.6	3.2	8613	720	682	125	223

HeavyD™ PRECISION PROFILE RAIL, U-CHANNEL

- Steel construction, 18MnNb6
 - Supplied lightly oiled with WD40.
 - Rails are not hardened. Available in lengths up to 6 m (19.7 ft.).
 - Inside parallel raceways are machined.
- NOTE:** Inside of rails should be lightly greased, do not paint.



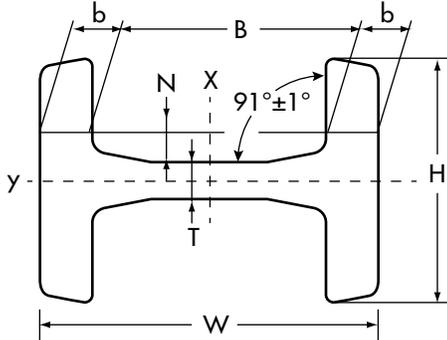
	DIMENSIONS (mm)						WT. (kg/m)	DISTANCE TO CENTER OF GRAVITY (cm)		MOMENT OF INERTIA (cm ⁴)		MOMENT OF RESISTANCE (cm ³)		
	W	b	B	H	T	N		ex	ey	Ix	Iy	Wx	Wy	
													MIN	MAX
HDRP-0	86.5	10.35 ± 0.5	65.8 ± 0.1	36.0 ± 0.8	7.0 ± 0.5	3.33	9.8	4.3	1.2	128	14	30	6	11
HDRP-1	103.2	14.55 ± 0.5	74.1 ± 0.1	40.0 ± 0.8	7.7 ± 0.5	3.33	14.0	5.2	1.4	260	25	50	10	18
HDRP-2	121.3	19.65 ± 0.5	82.0 ± 0.1	41.0 ± 0.8	10.8 ± 0.5	5.55	20.2	6.1	1.5	494	38	81	15	25
HDRP-3	135.4	21.35 ± 0.5	92.7 ± 0.1	53.0 ± 0.8	12.7 ± 0.5	5.55	27.7	6.8	1.9	840	85	124	25	44
HDRP-4	157.2	22.75 ± 0.5	111.7 ± 0.1	61.2 ± 0.8	14.0 ± 0.5	5.55	34.8	7.9	2.2	1451	144	185	37	66
HDRP-5	175.0	23.95 ± 0.5	127.1 ± 0.1	66.2 ± 0.8	16.2 ± 0.5	5.55	41.7	8.8	2.3	2125	197	243	46	85
HDRP-6	201.5	24.05 ± 0.5	153.4 ± 0.1	71.2 ± 0.8	19.4 ± 0.5	5.41	51.0	10.1	2.3	3332	258	331	54	110

IDA Motion, Inc. can accept no responsibility for possible errors in catalogs, brochures and other printed material. IDA Motion, Inc. reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequent changes being necessary in specifications already agreed.

HeavyD™ PROFILE RAIL, I-CHANNEL

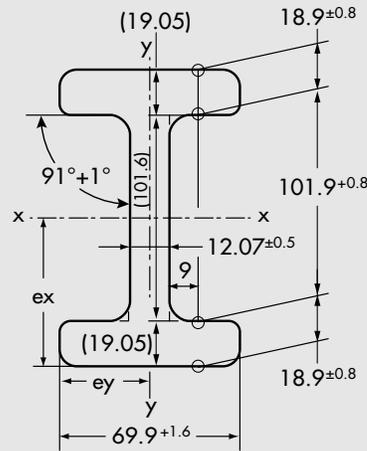
- Steel construction, 18MnNb6
- Optional sand blasted and/or lightly oiled.
- Rails are not hardened. Available in lengths up to 6 m (19.7 ft.).

NOTE: Inside of rails should be lightly greased, do not paint.



HDRI-A

ex = 7.0
 lx = 1078.008 cm⁴
 Wx = 154.332 cm³
 ey = 3.4
 ly = 104.377 cm⁴
 Wy = 20.886 cm³
 Weight = 30.9 kg/m

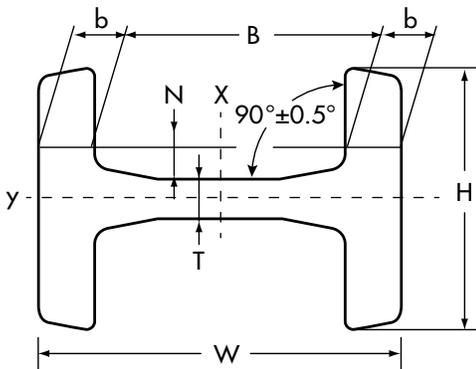


	DIMENSIONS (mm)						WT. (kg/m)	DISTANCE TO CENTER OF GRAVITY (cm)		MOMENT OF INERTIA (cm ⁴)		MOMENT OF RESISTANCE (cm ³)	
	W	b	B	H	T	N		ex	ey	lx	ly	Wx	Wy
HDRI-1	98.0	14.0 ± 0.5	70.0 + 1.0	65.0 ± 1.0	9.0 ± 0.5	7.0	19.4	4.9	3.3	344	58	70	18
HDRI-2	113.9	18.0 ± 0.5	77.9 + 1.0	66.0 ± 1.0	11.0 ± 0.5	9.0	25.3	5.7	3.3	580	77	103	23
HDRI-3	129.6	20.5 ± 0.5	88.6 + 1.0	81.0 ± 1.25	12.0 ± 0.5	9.0	34.1	6.5	4.1	1037	162	160	40
HDRI-4	152.4	22.0 ± 0.5	108.4 ± 0.5	83.0 ± 1.0	14.0 ± 0.5	9.0	40.5	7.6	4.2	1670	185	219	44
HDRI-5	175.0	25.6 ± 0.5	123.8 ± 0.5	90.0 ± 1.3	15.0 ± 0.5	12.5	51.4	8.8	4.5	2818	291	322	65

HeavyD™ PRECISION PROFILE RAIL, I-CHANNEL

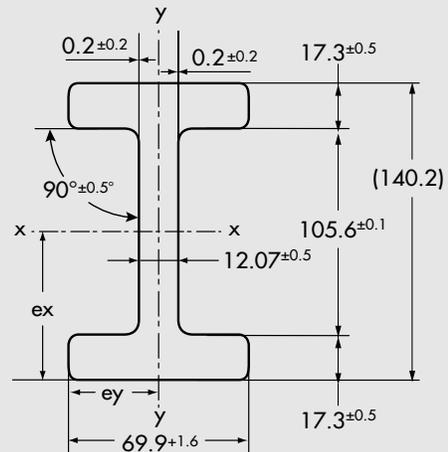
- Steel construction, 18MnNb6
- Optional sand blasted and/or lightly oiled.
- Rails are not hardened. Available in lengths up to 6 m (19.7 ft.).
- Inside parallel raceways are machined, both sides.

NOTE: Inside of rails should be lightly greased, do not paint.



HDRIP-A

ex = 7.0 cm
 lx = 1040.679 cm⁴
 Wx = 148.456 cm³
 ey = 3.5
 ly = 98.4777 cm⁴
 Wy = 28.177 cm³
 Weight = 29.5 kg/m

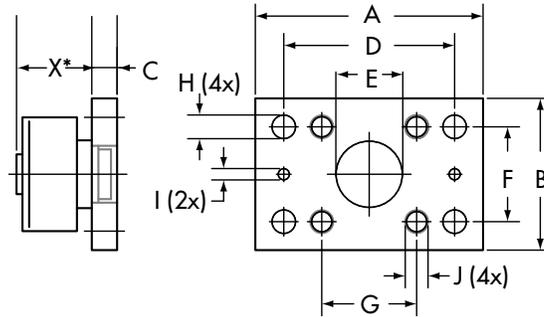


	DIMENSIONS (mm)						WT. (kg/m)	DISTANCE TO CENTER OF GRAVITY (cm)		MOMENT OF INERTIA (cm ⁴)		MOMENT OF RESISTANCE (cm ³)	
	W	b	B	H	T	N		ex	ey	lx	ly	Wx	Wy
HDRIP-1	98.0	11.95 ± 0.5	74.1 ± 0.1	65.0 ± 1.0	9.0 ± 0.5	3.41	17.9	4.9	3.3	320	50	65	15
HDRIP-2	113.9	16.1 ± 0.5	81.7 ± 0.1	66.0 ± 1.0	11.0 ± 0.5	3.41	23.9	5.7	3.3	551	69	97	21
HDRIP-3	129.6	18.45 ± 0.5	92.7 ± 0.1	81.0 ± 1.25	12.0 ± 0.5	3.43	32.2	6.5	4.1	988	147	153	36
HDRIP-4	152.4	19.95 ± 0.5	112.5 ± 0.1	83.0 ± 1.0	14.0 ± 0.5	4.70	38.7	7.6	4.2	1600	169	210	41
HDRIP-5	175.0	23.6 ± 0.5	127.8 ± 0.1	90.0 ± 1.3	15.0 ± 0.5	5.53	49.5	8.8	4.5	2722	272	311	60

IDA Motion, Inc. can accept no responsibility for possible errors in catalogs, brochures and other printed material. IDA Motion, Inc. reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequent changes being necessary in specifications already agreed.

HeavyD™ FLANGE PLATE

- Low carbon steel.
- Optional bearings pre-welded to flange plates.
- *Custom plates available: call factory.

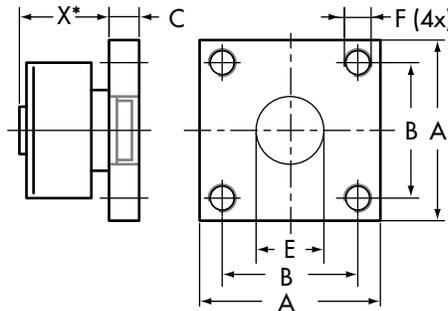


	DIMENSIONS (mm)										WT. (kg)
	A	B	C	D	ØE	F	G	ØH	ØI	J	
HDP-S	90	50	10	70	30	30	40	8.5	6	M8	0.25
HDP-0	100	60	10	80	30	40	40	10.5	6	M10	0.38
HDP-1	120	80	15	90	35	50	50	12.5	6	M12	0.90
HDP-2	120	80	15	90	40	50	50	12.5	6	M12	0.85
HDP-3.1	160	100	20	120	45	60	60	17.0	6	M16	2.35
HDP-4	180	120	20	140	60	80	80	17.0	6	M16	2.65
HDP-5	180	120	20	140	60	80	80	17.0	6	M16	2.65
HDP-6	200	150	20	160	60	100	100	17.0	6	M16	4.0

X* = depth of axial bearing. ("I" dimension on pages 3,4, and 5)

HeavyD™ SQUARE FLANGE PLATE

- Low carbon steel
- Optional bearings pre-welded to flange plates.
- *Custom plates available: call factory.



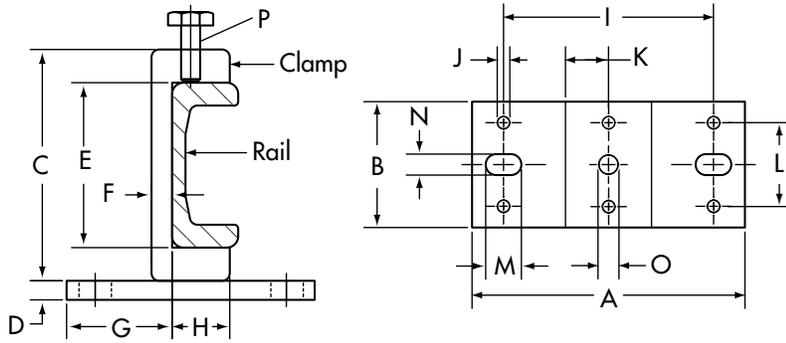
	DIMENSIONS (mm)					WT. (kg)
	A	B	ØE	ØF	C	
HDP-SQ	50	30	30	M8	10	0.2
HDP-0Q	60	40	30	M10	10	0.28
HDP-1Q	80	50	35	M12	15	0.75
HDP-2Q	80	50	40	M12	15	0.75
HDP-3Q	120	90	45	M16	20	1.85
HDP-4Q	120	80	60	M16	20	2.2
HDP-6Q	150	100	60	M16	20	3.4
HDP-85Q	190	150	100	M20	28	7.9
HDP-89Q	165	125	80	M20	23	4.9
HDP-90Q	190	150	100	M20	28	7.9
HDP-91Q	220	176	110	M24	33	12.5
HDP-92Q	250	206	120	M24	37	18.0
HDP-93Q	280	220	150	M30	37	22.0
HDP-94Q	280	220	150	M30	37	22.0

X* = depth of axial bearing. ("I" dimension on pages 3,4, and 5)

IDA Motion, Inc. can accept no responsibility for possible errors in catalogs, brochures and other printed material. IDA Motion, Inc. reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed.

HeavyD™ ADJUSTABLE CLAMP FLANGE

- Low carbon steel.
- Easily adjustable parallelism.



	DIMENSIONS (mm)																WT. (kg)
	A	B	C	D	E	F	G	H	I	ØJ	K	L	M	N	ØO	P	
HDC-0	130.0	60.0	121.3	10.0	88.5	10.8	44.5	41.0	100.0	6.0	20.0	40.0	18.0	11.0	M10 x 30	M10 x 30	1.60
HDC-1	130.0	60.0	135.4	10.0	105.0	12.7	38.5	53.0	100.0	6.0	26.5	40.0	18.0	11.0	M10 x 30	M10 x 30	1.95
HDC-2	160.0	80.0	157.2	15.0	123.0	14.0	49.5	61.2	130.0	6.0	30.6	60.0	18.0	13.0	M12 x 35	M12 x 35	3.85
HDC-3	160.0	80.0	175.0	15.0	137.5	16.2	46.9	66.2	130.0	6.0	33.1	60.0	18.0	13.0	M12 x 35	M12 x 35	4.30
HDC-4	160.0	80.0	201.5	15.0	159.0	19.4	44.4	71.2	130.0	6.0	35.6	60.0	18.0	13.0	M12 x 35	M12 x 35	5.20

DESIGN CONSIDERATION FOR CLEARANCE

Overall system clearance should be between 1.524 mm and 3.048 mm.

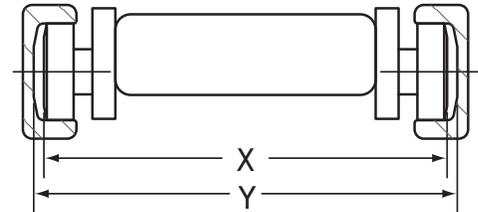
Formula: $Y = X + (1.524 \text{ mm to } 3.048 \text{ mm})$

X = saddle width (outer to outer edge of bearings)

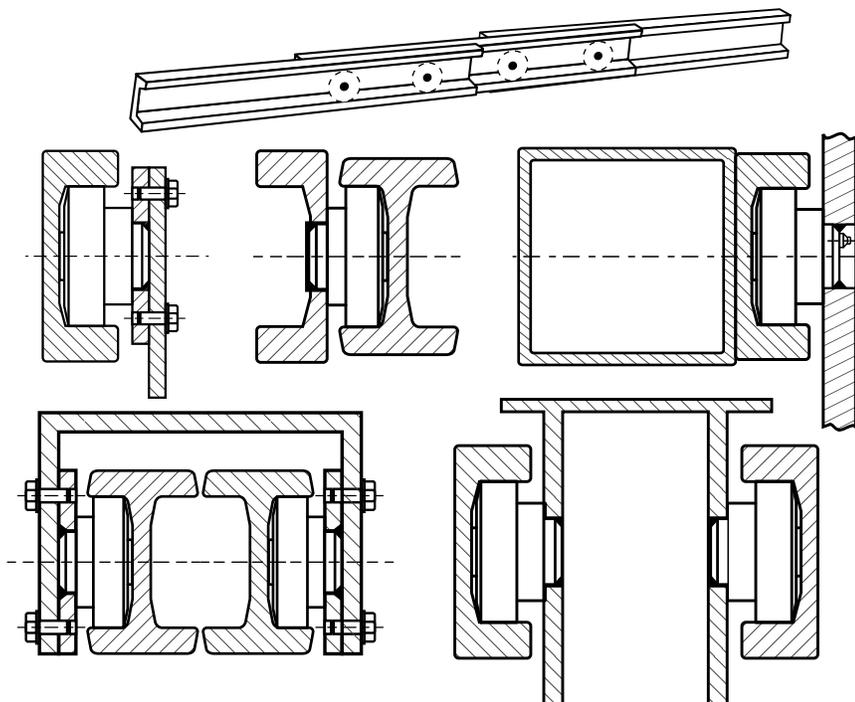
Y = distance between inside of rails

CONVERSIONS:

- 1 kg = 2.2 lbs.
- 1 mm = 0.04 in.
- 1 m = 3.28 ft.
- 1 kN = 1000 N
- 1 N = 0.225 lbf



SYSTEM DESIGN EXAMPLES



IDA Motion, Inc. can accept no responsibility for possible errors in catalogs, brochures and other printed material. IDA Motion, Inc. reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequent changes being necessary in specifications already agreed.

CALCULATION OF BEARING DISTANCE FOR CANTILEVERED LOADS - VERTICAL

Formula:

$$A = \frac{Q \cdot L}{2 \cdot F_{\text{max stat radial}} \text{ (N)}}$$

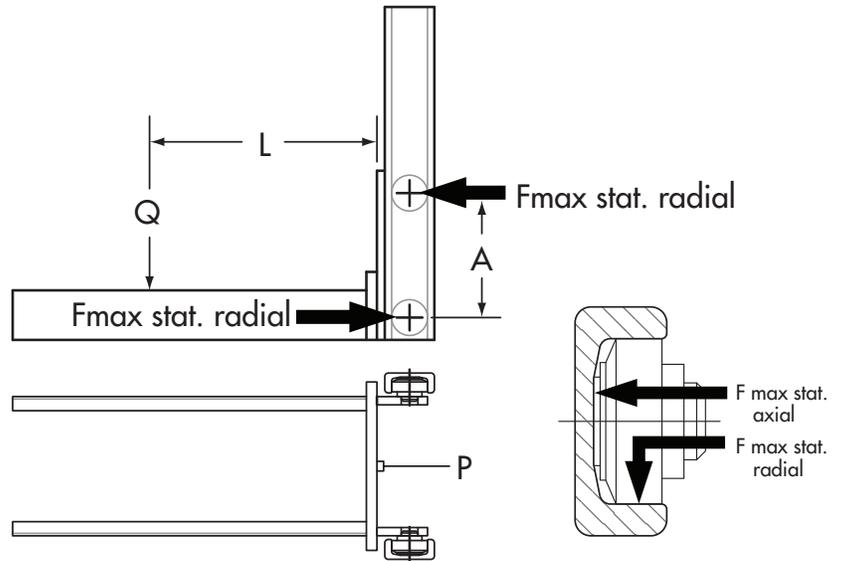
Rails are not hardened, so, to avoid excess rail wear, the pressure between bearing and rail should be maximum of $P = 750 \text{ N/mm}^2$.

Q = Load capacity (N)

L = Load distance to suspension point (mm)

P = Suspension point

A = Bearing distance (mm) recommended 500–1000 mm



CALCULATION OF BEARING DISTANCE FOR CANTILEVERED LOADS - HORIZONTAL

Formula:

$$F1 \text{ [N]}_{\text{stat radial}} = \frac{Q \cdot L}{2 \cdot A}$$

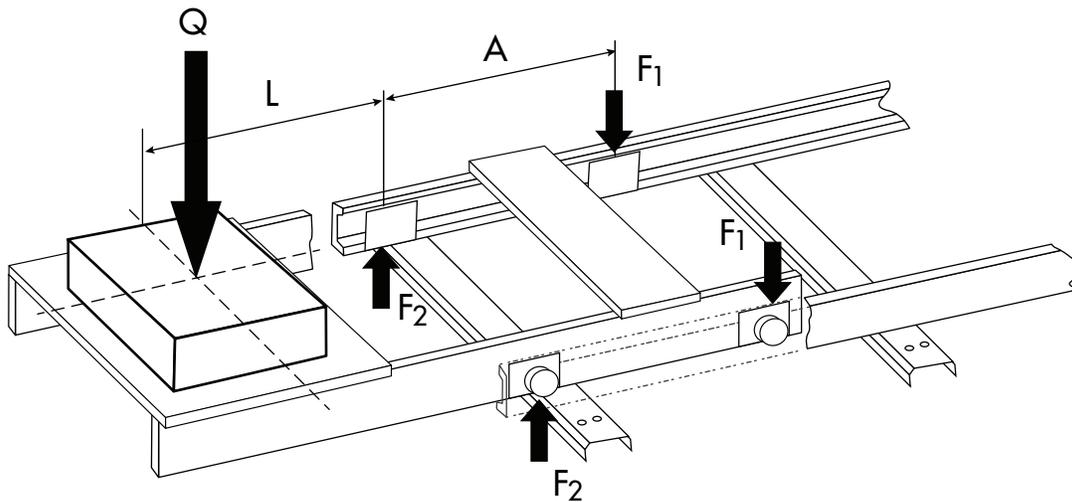
Q = Load capacity (N)

L = Load distance to suspension point P (mm)

P = Suspension point

A = Bearing distance (mm) (recommended 500–1000 mm)

$$F2 \text{ [N]}_{\text{stat radial}} = F1 + \frac{Q}{2}$$



BEARING LIFE CALCULATION

$$\text{Life (hrs)} = 0.7 \cdot (c/p)^{3.33}$$

c = dynamic load capacity (N)

p = actual radial load (N)

IDA Motion, Inc. can accept no responsibility for possible errors in catalogs, brochures and other printed material. IDA Motion, Inc. reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed.

MANUFACTURING • DISTRIBUTION

IDA Motion, Inc.

2330 20th Avenue • Rockford, Illinois 61104 USA
Phone: +1 (815)227-9010 • Fax: +1 (815)227-9012
E-mail: sales@idamotion.com • www.idamotion.com