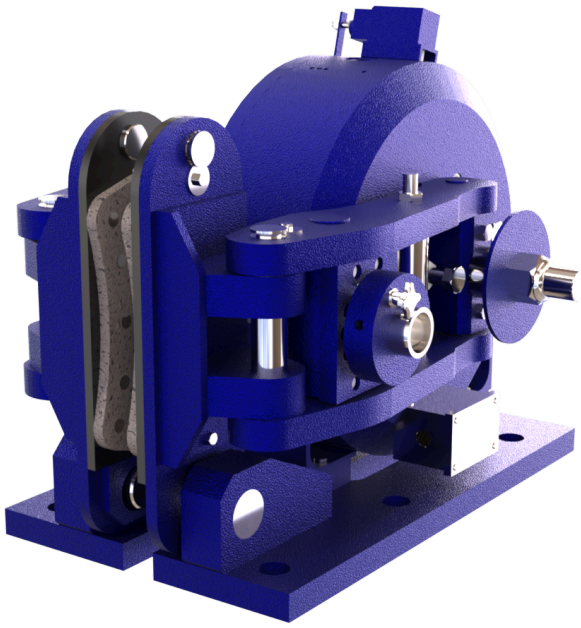


Product Catalogue

Electric Brakes

Section 01 · 2026 edition

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01.02 Magnetic Drum Brakes
01.03 Thruster Drum Brakes
01.04 Magnetic Disc Brakes
01.05 Thruster Disc Brakes
01.06 Other Elevanja Brakes
01.07 Electrical Accessories

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Elevanja Codes and Series

Order code structure

DRAWING
JELCS-01.1

Sector codes

To meet the material requirements of different industries, the brake order code is prefixed with an identity letter, e.g. **S**DL315-EB50.

G	General purpose industrial
S	Steelworks
H	High integrity for nuclear handling (NNC/BNFL/MOD)

Drum brake types

All spring applied, unless stated otherwise.

Series D Metric dimensions to DIN 15435

DA	DC magnet
DM	3-phase magnet & ATEX
DL	3-phase thruster & flameproof
DQ	Hydraulic applied by pedal
DR	Manual lever applied
DW	Manual handwheel applied
DH	Hydraulic cylinder
DPN	Pneumatic cylinder

Series M Imperial dimensions to AISE

SMAA	DC magnet
MAA	DC magnet (not AISE)
SMLA	3-phase thruster

Miscellaneous Imperial

HP	1-phase contactor
KP	DC solenoid

Disc brake types

CU01–4	DC magnet — service duty
CX20–90	DC magnet — emergency duty
CL10–30	3-phase thruster & flameproof

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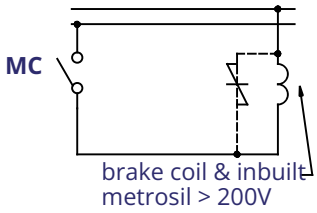
Electrical Connections

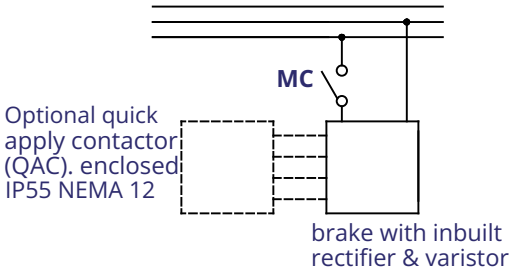
For DC magnetic brakes

DRAWING
ECDCMB-01.1

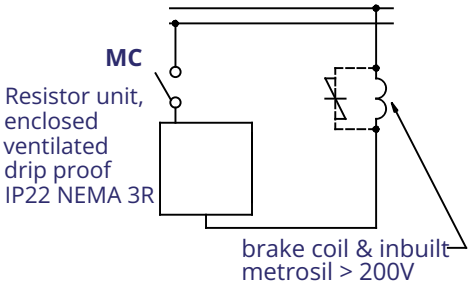
3. EQUIPMENT

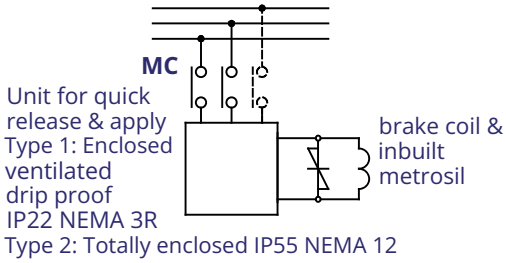
1. Size up to 10 inches (250 millimeters) ----------eg: Types DA/SMAA,K & PD
   Direct connection
   DC to 440V (600V with resistor) AC to 440V MAX 50 or 60 Hz



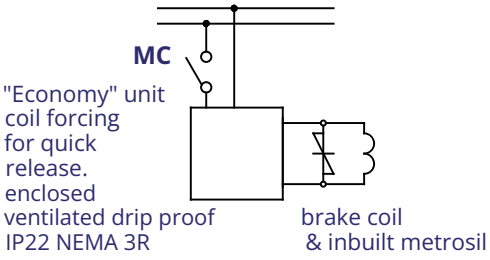


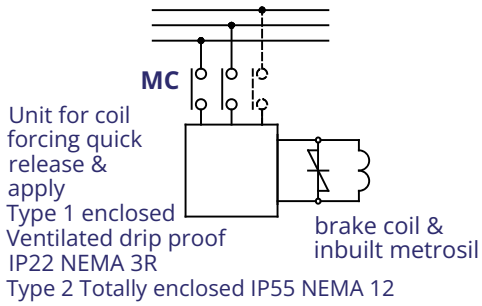
2. Size 315 - 12./13", 400 - 15/16" & 500/18"----------Types DA/SMAA/MAA
   With quick release resistor
   DC to 600 V AC to 600V 50 or 60 Hz





3. Size 500 - 19/20", 63.0 - 23./24"----------Type DA/SMAA/MAA + All CU/CX disc brakes
   With coil forcing by "economy"
   DC to 600V AC to 600V, 50 or 60 Hz.





Notes

- **1. CHARACTERISTICS** All DC magnets tend to slow response due to build-up & decay of the magnetic field. The electrical arrangement is dependent on (i) Available supply (ii) Actuator size.
- **2. CONTROL** By customer's Master Contactor (MC) to ensure correct interaction with drive control sequence. For voltage greater than 200V brake coils are protected by "metrosil" or "varistor" discharge devices.
- Fig 3 - Electrical Connections for DC Magnet Brakes

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Typical Actuator Response Times

Switch-on and switch-off comparison

DRAWING
ARTS-01.0

BRAKE TYPE	ACTUATOR DESCRIPTION	SWITCH-ON TIME: BRAKE RELEASING
CU	DC Magnet with Economy.	1&2 (0.35) · 3 (0.70) · 5&7 (0.80) · 4&6 (0.90)
DM	Typical 3-Phase Magnet.	0.11
DL SMLA CL	Typical 3-phase Thruster.	0.20
DA SMAA MAA	DC Magnet with Series Quick Release Resistor.	12 (0.17) 315 · 16 (0.25) 400
DA	DC Magnet Direct On-Line.	8 (0.30) 200 · 10 (0.40) 250 · 12 (0.50) 315 · 16 (0.80) 400

BRAKE TYPE	ACTUATOR DESCRIPTION	SWITCH-OFF TIME: BRAKE APPLYING
CU	DC Magnet with Economy.	3 (0.05) · 1&2 (0.07) · 4&7 (0.08) · 5 (0.15)
DM	Typical 3-Phase Magnet.	0.11
DL SMLA CL	Typical 3-phase Thruster.	12 (0.35) 315 · 16 (0.40) 400 · 20 & Up (0.45) 500 & Up · To 5 sec. with Hydraulic Valve.
DA SMAA MAA	DC Magnet with Rectifier.	10 (0.25) 250 · 12 (0.40) 315 · 20 (0.70) 400
DA	DC Magnet with Direct Switched Coil Quick Apply Contactor for AC.	10 (0.05) 250 · 12 (0.10) 315 · 16 & over (with Economy) (0.15) 400 & over (with Economy)

LEGEND
Brake Size (in)
Time (seconds)
Brake Size (mm)

Notes

- Fig 2 - Comparison of Typical Actuator Response Times

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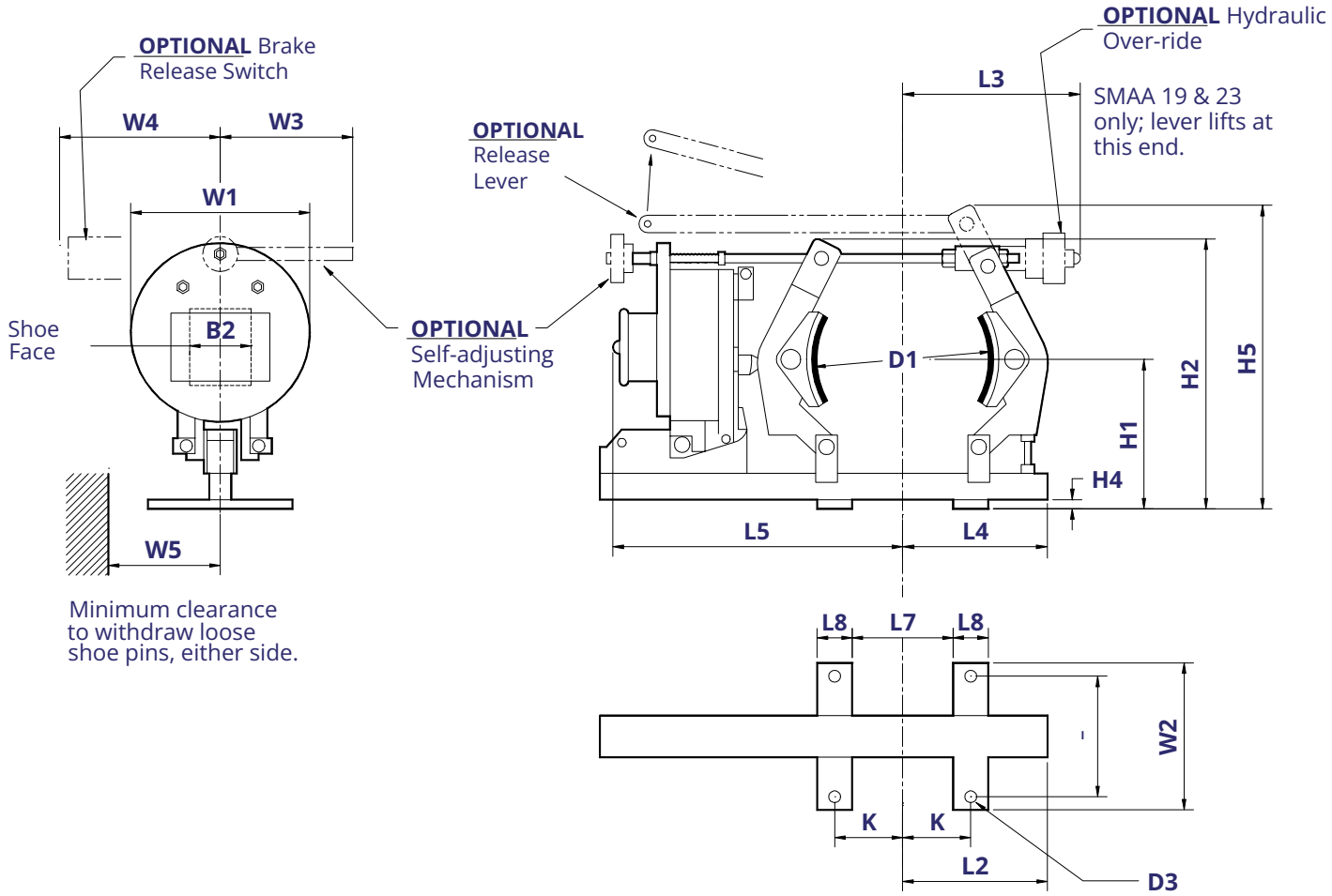
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DC Magnetic Drum Brakes

Type SMAA

DRAWING
SMAA-01.5



Specifications

Imperial (in., ft-lbs, lbs) to AISE

1 Torque based on lining μ = 0.38
2 Larger sizes forced at start for quicker brake lift

- Always check available space when replacing existing brakes.
- SMAA19 & 23 only: release lever lifts at the L3 end

Brake code	Drum size D1	Torque max ft-lbs	Torque AISE ft-lbs	Nett weight lbs	Coil power W	B2	D3	H1	H2	H4	H5	I	K	L2	L3	L4	L5	L7	L8	W1	W2	W3	W4	W5
SMAA6	6	59	24	62	90	2.36	0.43	4.76	10	0.25	10	3	4	5	12.6	6.3	12	6	2	6.2	4.2	—	3.2	4.4
SMAA8	8	160	100	100	110	2.76	0.688	7	13.375	1	15.5	5.75	3.25	6.88	12.4	6.88	15.2	4.5	2	7.5	7.38	5.3	3.5	4.9
SMAA10	10	270	200	140	170	3.54	0.688	8.375	15.75	1.25	17.63	6.25	4	8.47	14.2	8.66	17.3	6	2	8.5	7.88	5.3	3.5	5.9
SMAA13	13	630	550	240	800/200	5.5	0.813	9.875	20	1.13	21.25	9	5.75	10	16.9	10.25	20.69	9.13	2.38	10.6	11	6	4.4	7.2
SMAA16	16	1100	1000	540	1100/275	6.5	1.063	12.125	21.75	0.69	25.5	10.75	7.5	11.81	19.7	12.72	25.19	12.63	2.38	12.4	13	4.1	5.9	6.5
SMAA19	19	2620	2000	815	2700/350	8.5	1.063	13.25	25.75	0.5	31.6	13	9.25	14.5	—	15.38	31	15.31	3.19	16.7	15.75	4.1	6.7	7.9
SMAA23	23	4000	4000	1370	3500/450	11	1.313	15.875	31.75	0.88	32.6	16	11.75	17.31	—	19.28	35.63	18.66	4.34	22	19	6.3	7.9	9.3
SMAA30	30	details on application																						

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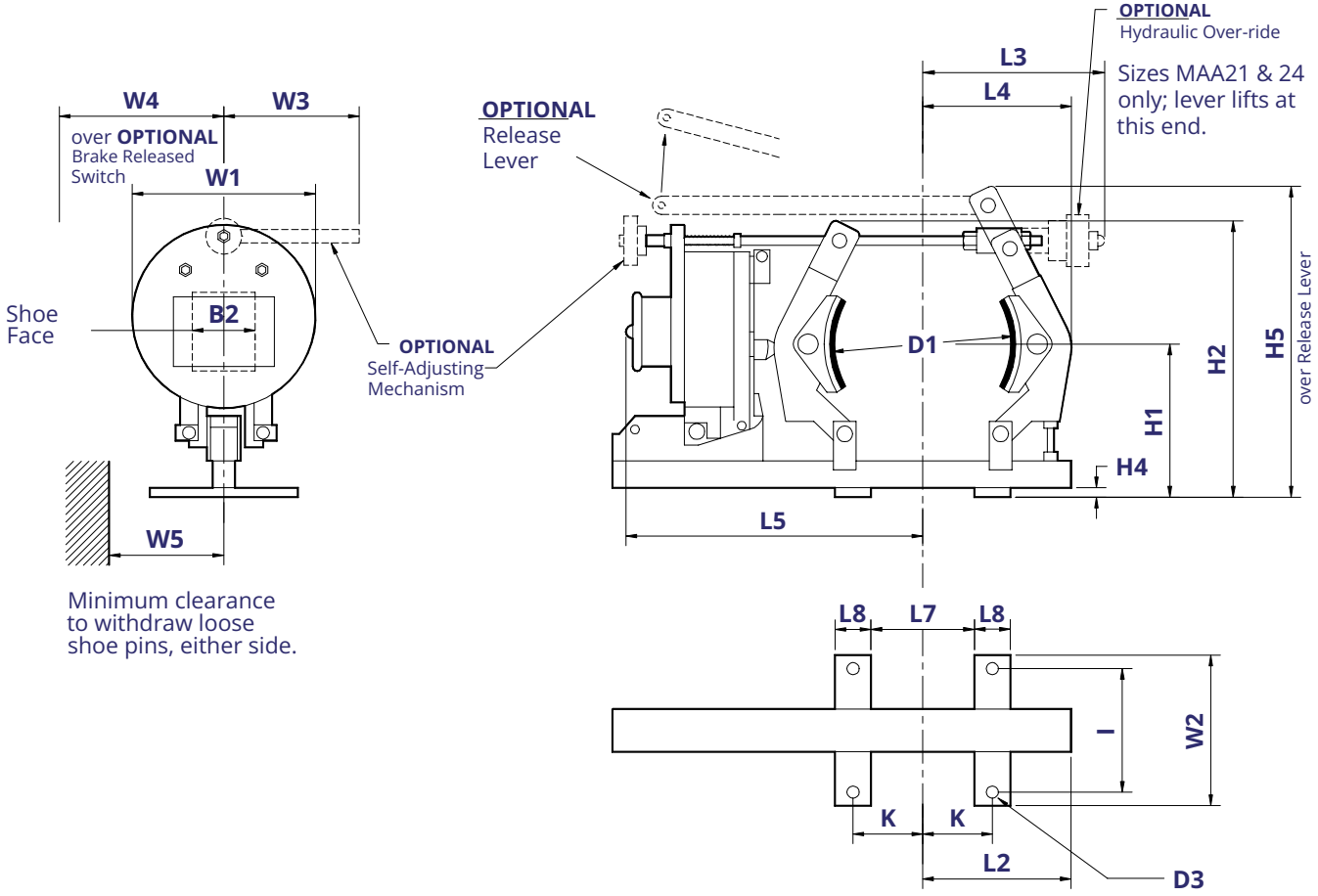
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DC Magnetic Drum Brakes

Type MAA

DRAWING
MAA-01.3



Specifications

Imperial / metric dual (in./mm, lbft/Nm, lb/kg). Similar to Igranic "M" type

- Larger coil sizes are forced at start for quicker brake lift.
- Max torque at lining μ = 0.38
- Sizes MAA21 & 24 only: lever lifts at the L3/L4 end
- MAA30 & MAA30H — details on application

Brake code	Drum size D1 in/mm	Max torque lbft/Nm	Nett weight lb/kg	Coil power W	B2	D3	H1	H2	H4	H5	I	K	L2	L3
MAA8	8 / 203	155 / 213	100 / 45	110	3/76	0.688/17	6.375/162	12.688/322	0.313/8	14.8/377	5/127	3/76	6.875/175	12.4/315
MAA10	10 / 254	265 / 362	140 / 64	170	3/76	0.688/17	7.375/187	14.5/368	0.313/8	16.6/422	5/127	3.75/95	8.469/215	14.2/360
MAA14	14 / 356	675 / 915	220 / 100	800/200	4.375/111	0.813/21	9.375/238	18/457	0.5/13	20.8/528	6.5/165	5.75/146	10.625/270	17.9/455
MAA18	18 / 457	1245 / 1690	540 / 245	1100/275	6/152	0.938/24	11.875/302	24.875/632	1/25	28.4/722	8.75/222	7.5/191	13/330	20.7/525
MAA21	21 / 533	2870 / 3900	815 / 370	2700/350	7/178	1.063/27	15.25/387	30/762	1.5/38	30/763	10/254	9.25/235	15.25/387	—
MAA24	24 / 610	4200 / 5690	1370 / 620	3500/450	7/178	1.063/27	15.25/387	32.75/832	0.75/19	32.2/818	10/254	9/229	17/432	—

Brake code	L4	L5	L7	L8	W1	W2	W3	W4	W5
MAA8	6.88/175	15.2/385	4/102	2/51	7.25/184	6.75/171	5.3/135	3.5/90	4.9/125
MAA10	8/203	17.3/440	5.5/140	2/51	8/200	6.75/171	5.3/135	3.5/90	5.9/150
MAA14	12.5/318	21.5/546	9.5/241	2/51	10.6/270	8.5/216	6.1/155	4.4/110	7.2/183
MAA18	13.813/351	27.5/699	12/305	3/76	12.41/315	11/279	4.1/105	6.7/170	6.5/164
MAA21	16.25/413	32/813	13.5/343	2.5/63.5	16.75/425	12.5/318	4.1/105	6.7/170	7.9/200
MAA24	19.375/492	38.25/972	18/457	3/76	22/559	12.5/318	6.3/160	7.9/200	9.3/236

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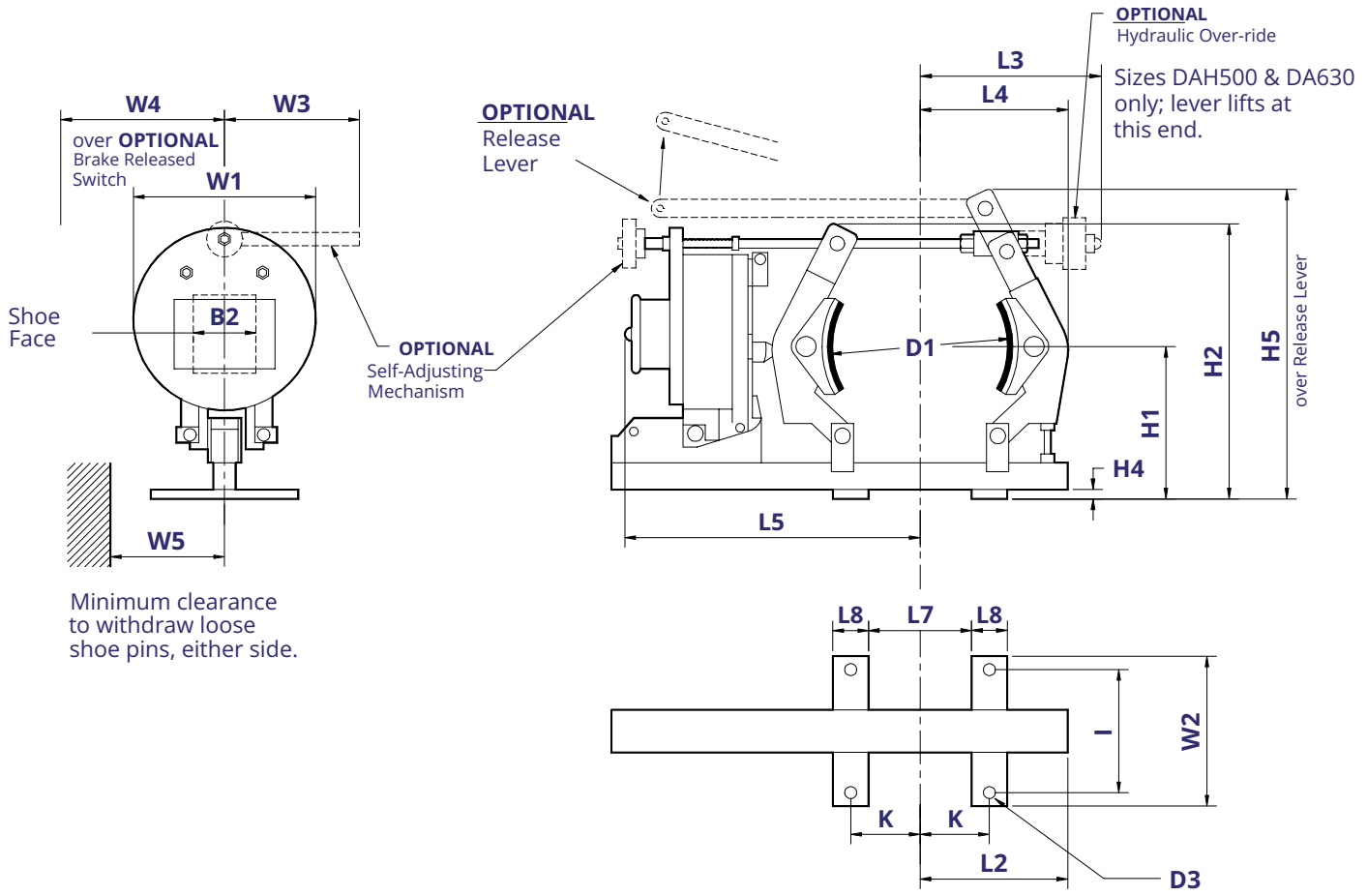
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DC Magnetic Drum Brakes

Type DA (Metric)

DRAWING
DAM-01.2



Specifications

Metric (mm, Nm, kg) as DIN 15435

- 1. General Industrial Pattern prefix code: GDA Steelworks prefix code: SDA High Integrity prefix code: HDA
- 2. Alternative Imperial Brakeshoe sizes are not direct conversions of the standard DIN 15435 Metric
- Larger coil sizes are forced at start for quicker brake lift.
- Max torque at lining μ = 0.38
- Sizes DAH500 & DA630 only: lever lifts at the L3/L4 end
- DA710 — details on application

Brake code	Drum size D1 mm (in)	Max torque Nm	Nett weight kg	Coil power W	B2	D3	H1	H2	H4	H5	I	K	L2	L3	L4	L5	L7	L8	W1	W2	W3	W4	W5
DA100	100 (4)	32	11	45	51	8	86	159	10	159	76	76	96	—	96	238	121	32	108	102	—	—	104
DA160	160 (6)	80	28	90	55	11	121	255	6	255	76	102	128	320	160	305	153	50	156	105	—	80	112
DA200	200 (8)	213	46	110	70	14	160	320	8	375	55	145	175	315	175	385	240	50	195	84	135	90	125
DA250	250 (10)	362	64	170	90	18	190	370	8	425	65	180	215	360	220	440	310	50	216	100	135	90	150
DA315	315 (12)	565	100	210	110	18	230	470	8	520	80	220	250	430	260	525	360	65	248	120	155	110	183
DAH315	315 (12)	810	110	800/200	110	18	230	470	8	520	80	220	250	430	260	525	360	65	270	120	155	110	183
DA400	400 (16)	1487	246	1100/275	140	22	280	532	17	620	100	270	300	500	323	640	490	50	315	150	105	150	164
DA500	500 (20)	1900	264	1100/275	180	22	340	657	26	760	130	325	368	600	390	775	570	80	315	200	105	170	200
DAH500	500 (20)	3670	370	2700/350	180	22	340	657	26	810	130	325	368	—	390	775	570	80	425	200	105	170	200
DA630	630 (24)	5885	620	3500/450	225	27	420	824	28	850	170	400	440	—	486	918	500	180	560	240	160	200	236

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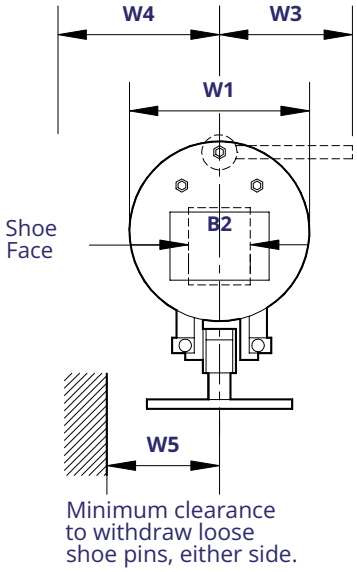
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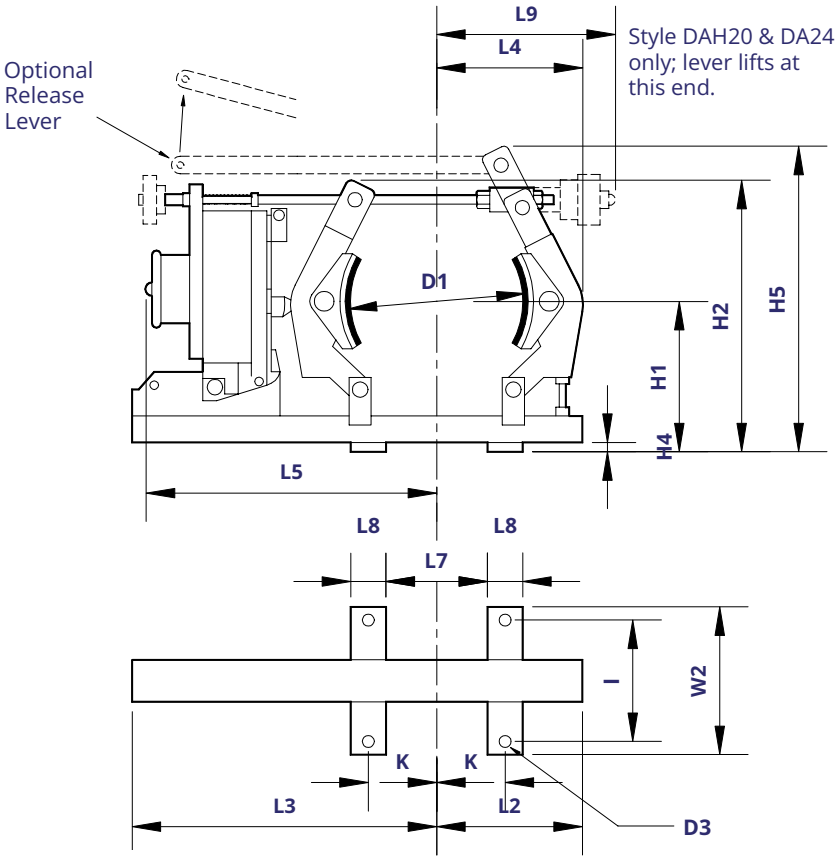
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DC Magnetic Drum Brakes

Type DA (Imperial)

DRAWING
DAA-01.1





Specifications

Imperial (in., ft-lb, lb)

- **OPTIONAL EXTRAS:** (DIMENSIONS ON REQUEST)
  - W3 = Self adjusting mechanism
  - W4 = Brake released switch
  - H5 = Brake release lever
  - L9 = Hydraulic override.
- Always check available space when replacing existing brakes.
- * = with Economy coil
- DA28 — details on application

Brake code	Drum size D1	Torque int. 50% ft-lb	Torque cont. 100% ft-lb	Nett weight lb	Gross weight lb	Volume ft³	Coil power W	B2	D3	H1	H2	H4	H5	I	K	L2	L3	L4	L5	L7	L8	W1	W2	W5
DA4	4	21.7	14	24.3	33.1	0.7	45	2.0	0.31	3.38	6.3	0.4	6.3	3	3	3.8	6.4	3.8	9.4	4.8	1.3	4.3	4.0	3.8
DA6	6	54.2	35	61.7	81.6	1.4	90	2.2	0.44	4.75	10.0	0.2	10.0	3	4	5.0	9.0	6.3	12.0	6.0	2.0	6.1	4.1	6.7
DA8	8	145	75	101	132	3.5	110	2.8	0.56	6.31	12.6	0.3	14.75	4	5.5	6.9	15.6	6.9	15.0	9.4	2.0	7.3	3.3	6.9
DA10	10	246	150	141	187	4.6	170	3.5	0.72	7.50	14.6	0.3	16.75	5	6	8.5	17.3	8.7	16.5	12.2	2.0	8.5	3.9	7.3
DA12	12	383	245	220	302	7.4	210	4.3	0.72	9.06	18.5	0.3	20.5	6	7	9.8	20.1	10.2	20.7	14.2	2.6	9.8	4.7	9.4
DAH12	12	550	400	220	302	7.4	260	4.3	0.72	9.06	18.5	0.3	20.5	6	7	9.8	20.1	10.2	20.7	14.2	2.6	10.6	4.7	9.4
DA16	16	1010	645	542	653	11	350	5.5	0.88	11.00	20.9	0.7	24.4	7	9	11.8	20.9	12.8	25.2	19.3	2.0	12.4	5.9	10.0
DA20	20	1290	820	582	701	17	350	7.1	0.88	13.38	25.9	1.1	29.9	14	9.5	14.5	25.0	15.4	30.5	22.4	3.1	12.4	7.9	17.5
DAH20	20	2500	1500	815	975	17	*2700/350	7.1	0.88	13.38	25.9	1.1	31.9	14	9.5	14.9	25.0	15.4	30.5	22.4	3.1	16.7	7.9	17.5
DA24	24	3990	3000	1365	1640	23	*3500/450	8.9	1.06	16.56	32.4	1.1	33.5	17	12	17.3	27.6	19.1	36.1	19.7	7.1	22.0	9.4	14.2

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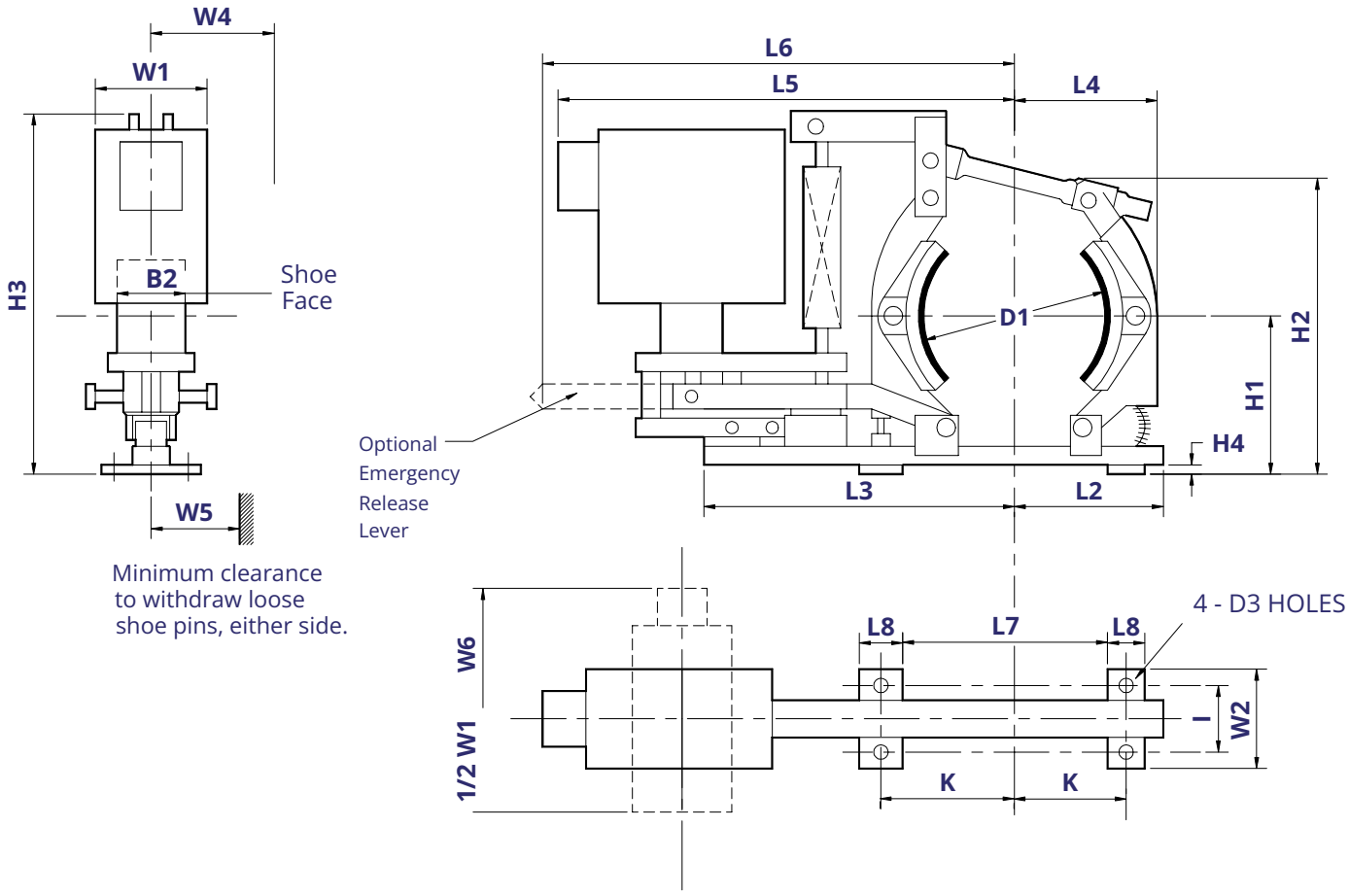
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3-Phase Magnetic Drum Brakes

Type DM-AM (Metric)

DRAWING
DMM-01.1



Specifications

Product update

The 3-phase DM-AM magnetic drum brake is no longer offered and its brake data has been withdrawn. A rectified DC magnetic drum brake is offered as a drop-in replacement. Please contact Johnson Industries with the existing brake code for a replacement selection.

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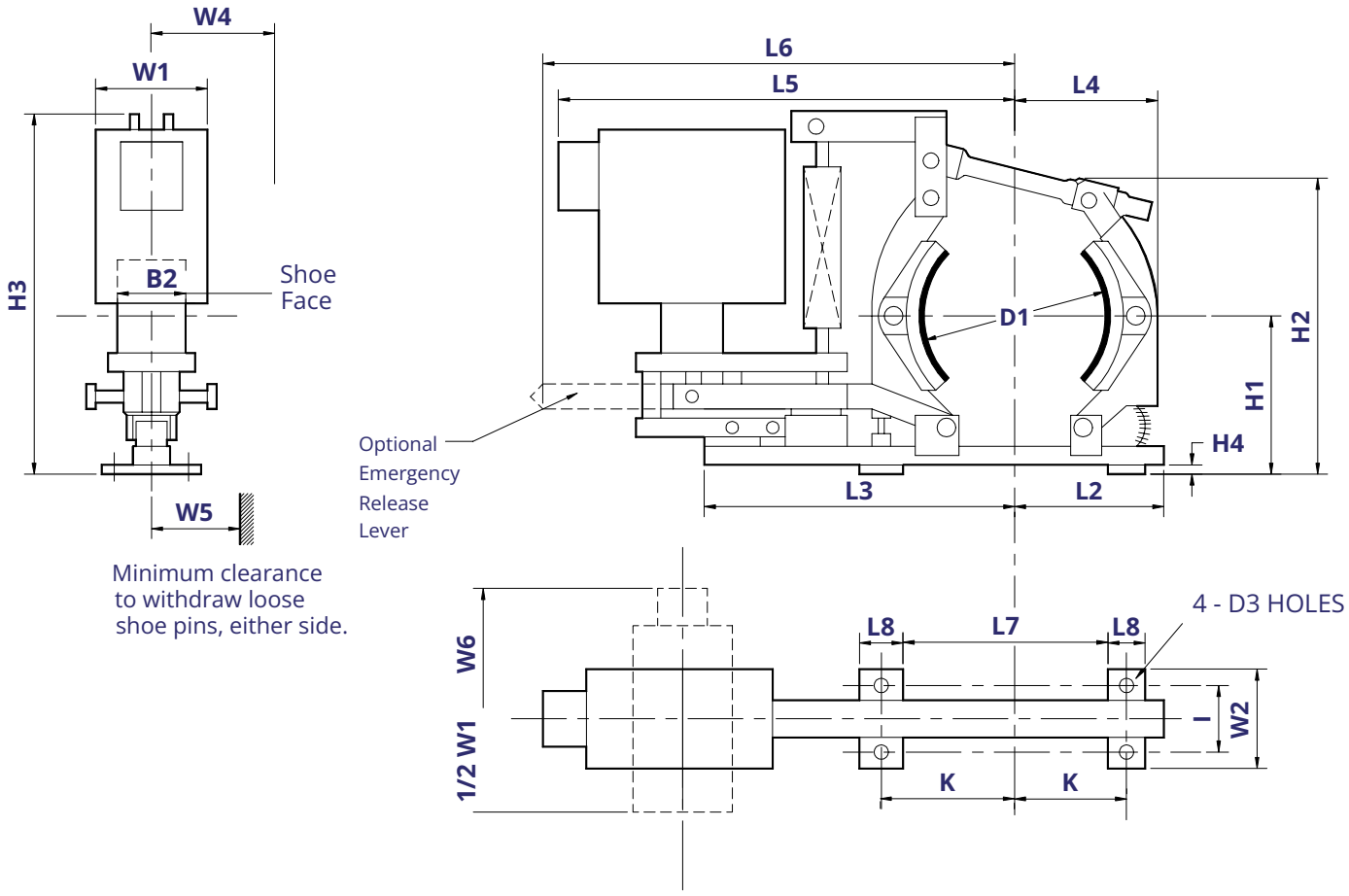
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3-Phase Magnetic Drum Brakes

Type DM-AM (Imperial)

DRAWING
DMA-01.1



Specifications

Product update

The 3-phase DM-AM magnetic drum brake is no longer offered and its brake data has been withdrawn. A rectified DC magnetic drum brake is offered as a drop-in replacement. Please contact Johnson Industries with the existing brake code for a replacement selection.

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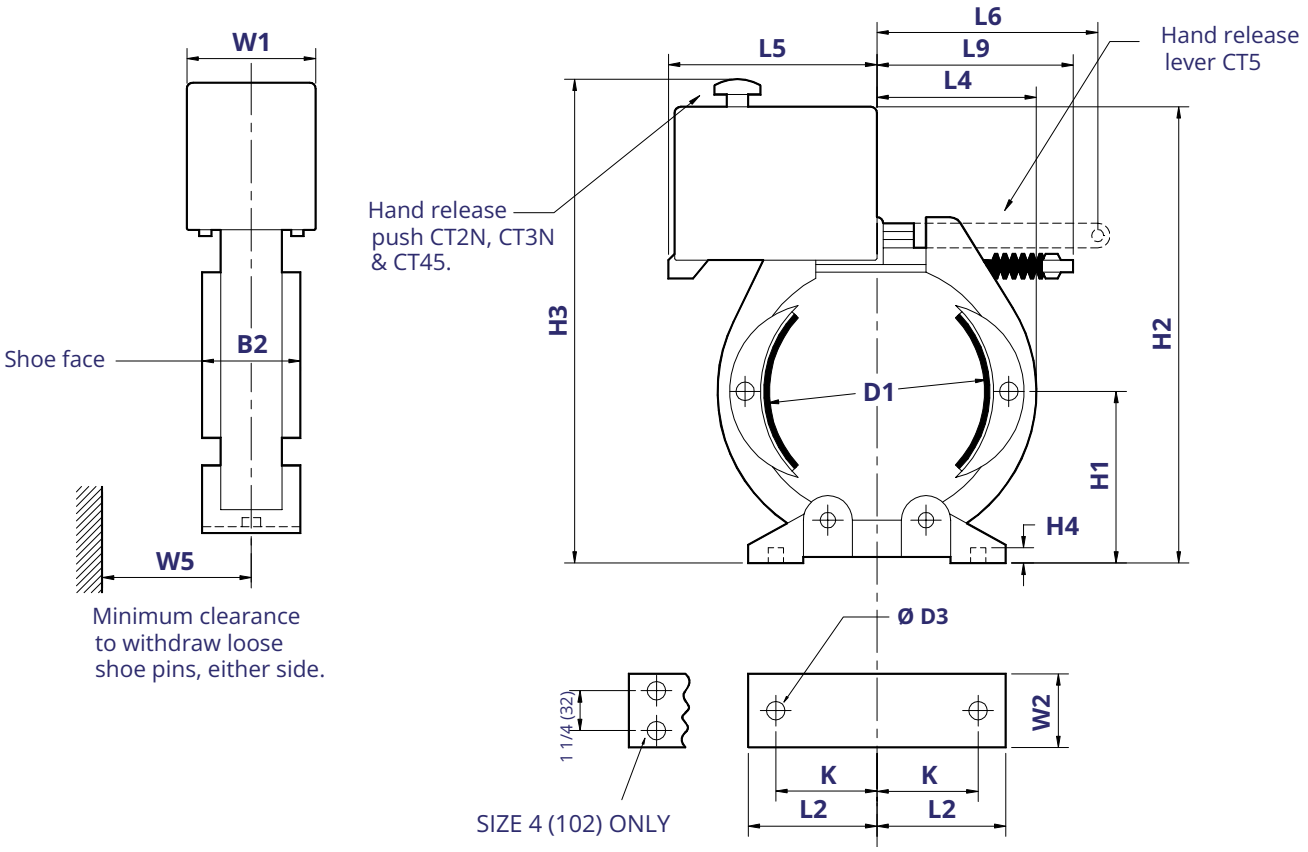
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Single Phase Magnetic Drum Brakes

Type HP

DRAWING
HPB-01.0



02

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Single Phase Magnetic Drum Brakes

Type HP — specifications

DRAWING
HPB-01.0

Specifications

Dual in/mm, lb-ft/Nm, lb/kg, ft³/m³

- **NOTE:** 8" and 10" sizes also available with alternative 200 and 250 mm shoes for drums to DIN 15431 metric standard.
- Coil can be connected across 2 lines of a 3Ø supply.
- Always check available space when replacing existing brakes.
- Hand release push on CT2N, CT3N and CT45; hand release lever on CT5
- Coil consumption 100-600 volts, 40-60 cycles. a = VA at start of stroke, b = VA at completion of stroke
- Current (amperes) = VA / voltage

Brake code	Drum size D1 in/mm	Torque 120 oph lb-ft/Nm	Torque cont. lb-ft/Nm	Nett lb/kg	Gross lb/kg	Volume ft³/m³	Actuator size	B2	D3	H1	H2	H3	H4
0402FHCT2N	4 / 102	24 / 33	14 / 19	14 / 6.4	28 / 13	1.25 / 0.04	CT2N	2/51	0.313/8	3.5/89	10.375/264	11.75/298	0.44/11
0603BHPCT3N	6 / 152	60 / 81	45 / 61	34 / 15	56 / 25	3.5 / 0.10	CT3N	3/76	0.563/14	5/127	14/356	15.38/391	0.75/19
0603BHPCT45	6 / 152	85 / 115	65 / 88	48 / 22	70 / 32	3.5 / 0.10	CT45	3/76	0.563/14	5/127	15/381	16.38/416	0.75/19
0804BHPCT3N	8 / 203	80 / 108	60 / 81	48 / 22	70 / 32	4 / 0.11	CT3N	4/102	0.813/21	6.5/165	16.5/419	17.88/454	1/25
0804BHPCT45	8 / 203	110 / 149	85 / 115	62 / 28	100 / 45	4 / 0.11	CT45	4/102	0.813/21	6.5/165	17.5/445	18.88/479	1/25
0804BHPCT5	8 / 203	150 / 203	130 / 176	73 / 33	110 / 20	4 / 0.11	CT5	4/102	0.813/21	6.5/165	18.25/464	19.63/498	1/25
1004BHPCT45	10 / 254	135 / 183	105 / 142	72 / 33	110 / 20	5 / 0.14	CT45	4/102	0.813/21	8/203	20.5/521	21.88/556	1/25
1005BHPCT5	10 / 254	220 / 298	160 / 217	80 / 36	120 / 54	5 / 0.14	CT5	4/102	0.813/21	8/203	21/533	22.38/568	1/25
1205BHPCT5	12 / 305	260 / 353	190 / 258	122 / 55	170 / 77	6 / 0.17	CT5	5/127	0.813/21	10.5/267	24.5/622	25.88/657	1.13/29

Coil consumption (VA), 100-600 V, 40-60 cycles

Actuator	a = VA at start of stroke	b = VA at completion	120 oph	Cont.
CT2N	1000	480	230	80
CT3N	1480	340	1200	189
CT45	3500	850	2450	500
CT5	5100	1300	3450	580

Brake code	K	L2	L4	L5	L6	L9	W1	W2	W5
0402FHCT2N	3.125/79	3.5/89	3/76	4.75/121	—	5.5/140	4.5/114	2/51	3.75/95
0603BHPCT3N	5.5/140	6.13/156	5.13/130	6.25/159	—	7.75/197	5.5/140	3.5/89	5.5/140
0603BHPCT45	5.5/140	6.13/156	5.13/130	7.75/197	—	8.5/216	6/152	3.5/89	5.5/140
0804BHPCT3N	5.25/133	6/152	6.25/159	6.75/171	—	8.88/225	5.5/140	4.5/114	7/178
0804BHPCT45	5.25/133	6/152	6.25/159	7.75/197	—	9/229	6/152	4.5/114	7/178
0804BHPCT5	5.25/133	6/152	6.25/159	9.75/248	9.75/248	10/254	6.5/165	4.5/114	7/178
1004BHPCT45	5.25/133	6/152	7.38/187	8.75/222	—	10.25/260	6/152	4.5/114	7/178
1005BHPCT5	5.25/133	6/152	7.38/187	10/254	11/279	10.25/260	6.5/165	4.5/114	7/178
1205BHPCT5	7.5/191	8.5/216	9/229	11.5/292	11/279	11/279	6.5/165	6/152	8.5/216

Coil consumption (VA), 100-600 V, 40-60 cycles

Actuator	Cont.
CT2N	
CT3N	
CT45	
CT5	

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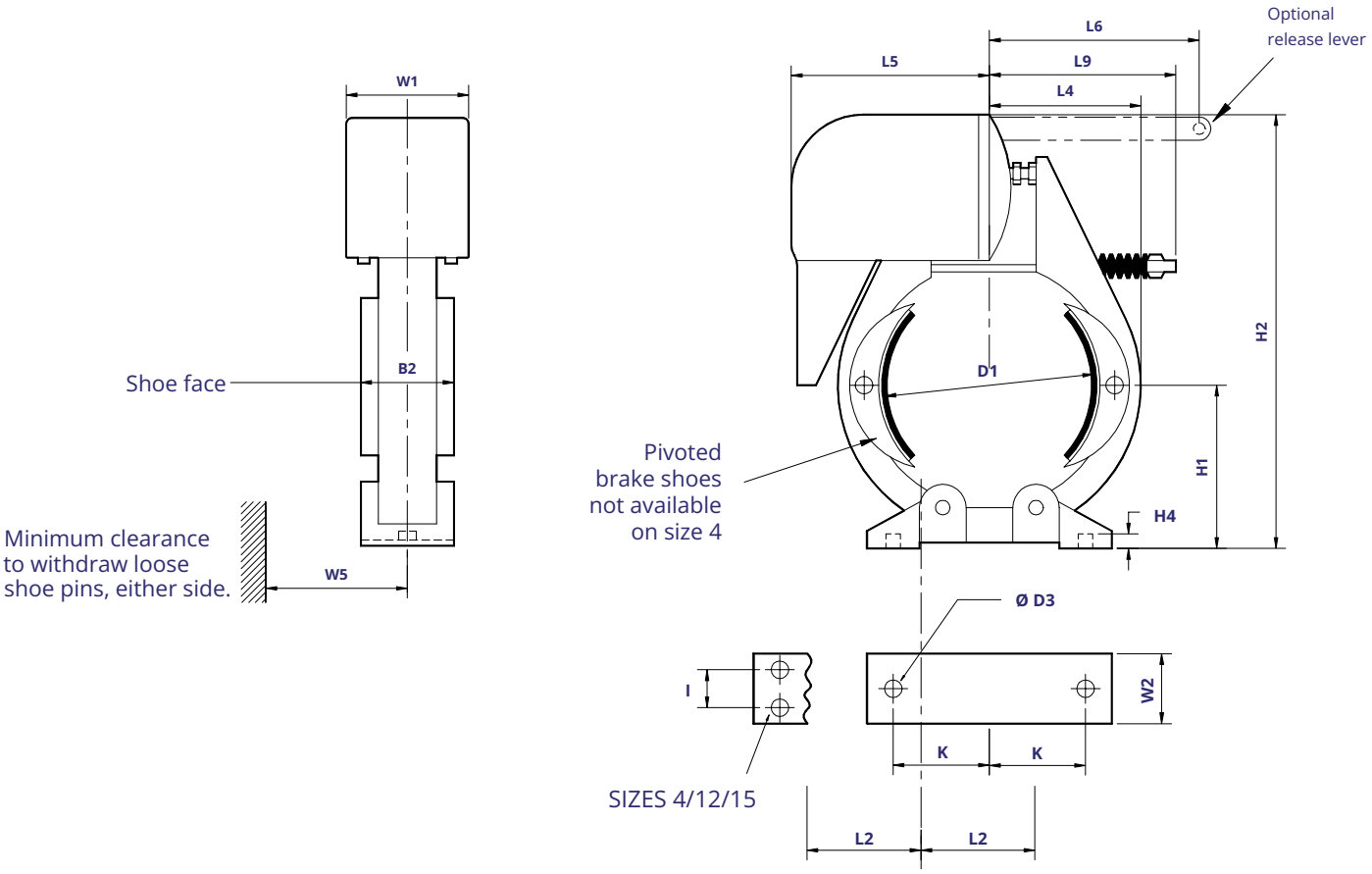
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DC Magnetic Drum Brakes

Type KP

DRAWING
KPB-01.2



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DC Magnetic Drum Brakes

Type KP — specifications

DRAWING
KPB-01.2

Specifications

Dual in/mm, lb-ft/Nm, lb/kg

- **NOTE:**
  - Metric drum sizes are not direct conversion of imperial dimensions.
  - Brakes for use on AC supplies, max 440v can be fitted with inbuilt rectifier or electronic economiser unit.
  - DT4 and DT5 are separate units
  - Always check available space when replacing existing brakes.
- Pivotted brake shoes not available on size 4

Brake code	Drum size D1 in/mm	Max torque economy lb-ft/Nm	Max torque 60 min lb-ft/Nm	Max torque cont. lb-ft/Nm	Nett lb/kg	B2	D3	H1	H2	H4	I	K	L2	L4	L5
FK0402 DT0	4 / 100	— / —	18 / 24	9 / 12	14 / 6.4	2/51	0.313/8	3.5/89	9.63/244	0.44/11	1.25/32	3.125/79	3.5/89	2.75/70	5.13/130
BKP0603 DT1	6 / 150	72 / 98	50 / 68	25 / 34	58 / 26	3/76	0.563/14	5/127	13.38/340	0.75/19	—	5.5/140	6.13/156	5.19/132	7.88/200
BKP0804 DT2	8 / 200	120 / 163	84 / 114	42 / 57	64 / 29	4/102	0.813/21	6.5/165	16.5/419	1/25	—	5.25/133	6/152	6.31/160	10.25/260
BKP0804 DT3	8 / 200	240 / 325	168 / 228	84 / 114	80 / 36	4/102	0.813/21	6.5/165	17.25/438	1/25	—	5.25/133	6/152	6.31/160	10.5/267
BKP1004 DT2	10 / 250	145 / 197	100 / 136	50 / 68	95 / 43	4/102	0.813/21	8/203	19.25/489	1/25	—	5.25/133	6/152	7.38/187	11/279
BKP1004 DT3	10 / 250	290 / 393	200 / 271	100 / 136	110 / 50	4/102	0.813/21	8/203	19.25/489	1/25	—	5.25/133	6/152	7.38/187	11/279
DKP12043 DT3	12 / 315	360 / 488	250 / 339	125 / 169	154 / 70	4.3/110	0.7/18	9/230	26/660	0.9/23	3.15/80	8.66/220	9.8/250	10.2/260	11.6/295
DKP12043 DT4	12 / 315	440 / 600	400 / 542	300 / 400	194 / 88	4.3/110	0.7/18	9/230	26/660	0.9/23	3.15/80	8.66/220	9.8/250	10.2/260	15/380
DKP1506 DT4	15 / 400	630 / 850	500 / 675	380 / 510	380 / 172	6/152	0.86/22	11/280	29.1/740	0.6/15	3.9/100	10.62/270	11.8/300	12.6/320	15.7/400
DKP1506 DT5	15 / 400	880 / 1200	670 / 900	500 / 675	400 / 180	6/152	0.86/22	11/280	29.1/740	0.6/15	3.9/100	10.62/270	11.8/300	12.6/320	15.7/400

Brake code	L6	L9	W1	W2	W5	Actuator size	Coil start/run W	Coil 60 min W	Coil cont. W
FK0402 DT0	6/152	5.75/146	3.63/92	2/51	3.75/95	DT0	—	50	25
BKP0603 DT1	7.5/191	6.63/168	5.5/140	3.5/89	5.5/140	DT1	245/62	124	62
BKP0804 DT2	8.5/216	7.75/197	5.5/140	4.5/114	7/178	DT2	330/82	164	82
BKP0804 DT3	8.5/216	7.75/197	6.25/159	4.5/114	7/178	DT3	425/106	212	106
BKP1004 DT2	9.25/235	8.75/222	6.38/162	4.5/114	7/178	DT2	330/82	164	82
BKP1004 DT3	9.25/235	8.75/222	6.38/162	4.5/114	7/178	DT3	425/106	212	106
DKP12043 DT3	10.8/275	10.2/260	7.1/180	4.7/120	7.2/183	DT3	425/106	212	106
DKP12043 DT4	18.1/460	10.2/260	8/203	4.7/120	7.2/183	DT4	840/150	350	175
DKP1506 DT4	17.2/435	13.6/345	8/203	5.9/150	6.5/164	DT4	840/150	350	175
DKP1506 DT5	10.5/267	13.6/345	8/203	5.9/150	6.5/164	DT5	840/150	350	175

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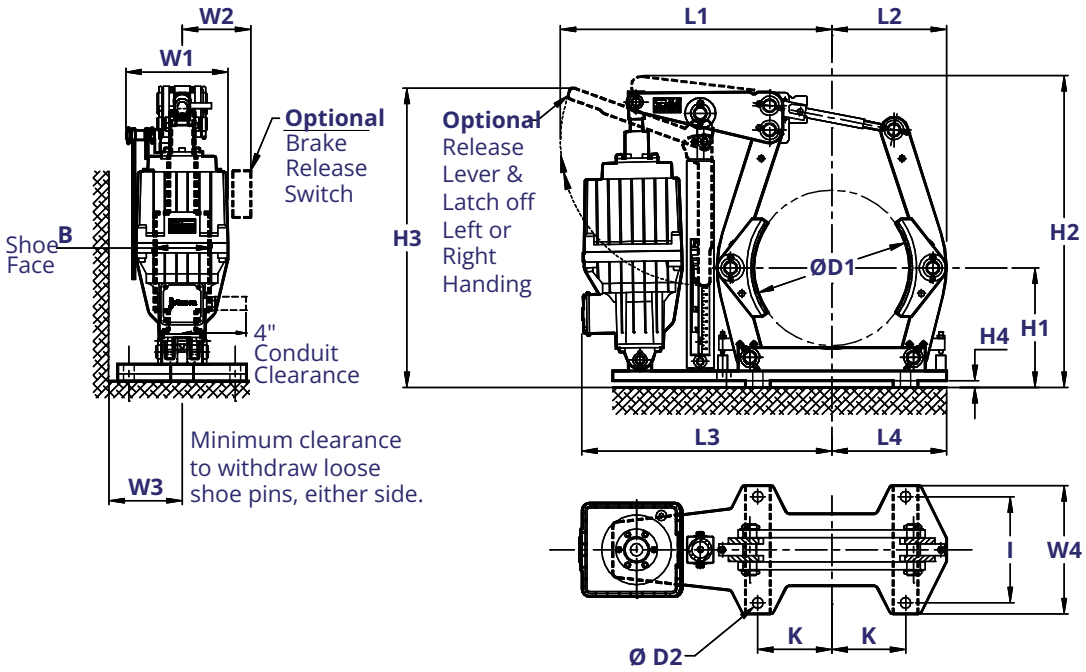
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SMLB Series Thruster Drum Brakes

DRAWING
SMLB-01.2



Specifications

Imperial (in., lb-ft, lb) as AISE

- Spring applied, electrically released
- Always check available space when replacing existing brakes
- A full range of thrusters and friction linings is available to suit particular torque requirements
- Cold STATIC torque values must be down rated by at least 20 percent
- Max dynamic torque is based on minimum air gap, largest spring and friction coefficient of 0.42
- Custom motor mounting hardware available
- D2 and H1 are nominal sizes
- Optional brake release switch; optional release lever & latch off, left or right handing
- 4 in conduit clearance; minimum clearance to withdraw loose shoe pins, either side

Brake model number	Drum size D1	Max dynamic torque lb-ft	Thruster power KVA	Nett weight lb	B	D2*	H1*	H2	H3	H4	I	K	L1	L2	L3	L4	W1	W2	W3	W4
SMLB06-EJ023/5	6	180	0.20	60	2.13	7/16	4.750	14.7	13.6	0	3.00	4.00	14.8	5.00	15.5	5.50	7.62	5.15	3.3	4.0
SMLB08-EJ023/5	8	220	0.20	75	3.03	11/16	7.000	16.6	15.8	0.51	5.75	3.25	16.0	6.34	16.8	6.87	7.62	5.15	4.2	7.4
SMLB08-EJ030/5	8	290	0.20	75	3.03	11/16	7.000	19.1	17.3	0.51	5.75	3.25	16.0	6.34	16.8	6.87	7.62	5.15	4.2	7.4
SMLB10-EJ023/5	10	240	0.20	95	3.50	11/16	8.375	19.9	19.0	0.59	6.25	4.00	17.3	7.68	18.7	7.90	7.62	5.15	5.0	7.9
SMLB10-EJ030/5	10	320	0.20	100	3.50	11/16	8.375	19.9	19.1	0.59	6.25	4.00	17.3	7.68	18.7	7.90	7.62	5.15	5.0	7.9
SMLB10-EJ050/6	10	530	0.20	125	3.50	11/16	8.375	22.7	20.3	0.59	6.25	4.00	17.3	7.68	19.8	7.90	8.80	6.75	5.0	7.9
SMLB13-EJ030/5	13	380	0.20	145	5.51	13/16	9.875	24.3	24.5	0.51	9.00	5.75	25.7	9.82	21.6	10.00	8.10	5.15	6.1	11.0
SMLB13-EJ050/6	13	640	0.20	175	5.51	13/16	9.875	24.3	24.0	0.51	9.00	5.75	25.7	9.82	22.7	10.00	9.10	6.75	6.1	11.0
SMLB13-EJ080/6	13	1140	0.48	180	5.51	13/16	9.875	24.3	24.5	0.51	9.00	5.75	25.7	9.82	22.7	10.00	9.10	6.75	6.1	11.0
SMLB16-EJ050/6	16	630	0.20	240	6.50	1-1/16	12.125	29.9	29.6	0.71	10.75	7.50	27.5	11.61	25.3	11.73	9.41	6.75	7.40	13.0
SMLB16-EJ080/6	16	1190	0.48	245	6.50	1-1/16	12.125	29.9	29.9	0.71	10.75	7.50	27.5	11.61	25.3	11.73	9.41	6.75	7.40	13.0
SMLB16-EJ121/6	16	1960	0.48	280	6.50	1-1/16	12.125	31.5	30.9	0.71	10.75	7.50	27.5	11.61	25.3	11.73	11.34	7.75	7.40	13.0
SMLB19-EJ080/6	19	1180	0.48	290	8.50	1-1/16	13.250	31.9	32.0	0	13	9.25	38.9	13.84	28.0	14.00	8.80	6.75	9.3	15.8
SMLB19-EJ121/6	19	2140	0.48	325	8.50	1-1/16	13.250	31.9	32.0	0	13	9.25	38.9	13.84	28.0	14.00	11.14	7.75	9.3	15.8
SMLB19-EJ201/6	19	3850	0.52	325	8.50	1-1/16	13.250	31.9	32.0	0	13	9.25	38.9	13.84	28.0	14.00	11.14	7.75	9.3	15.8

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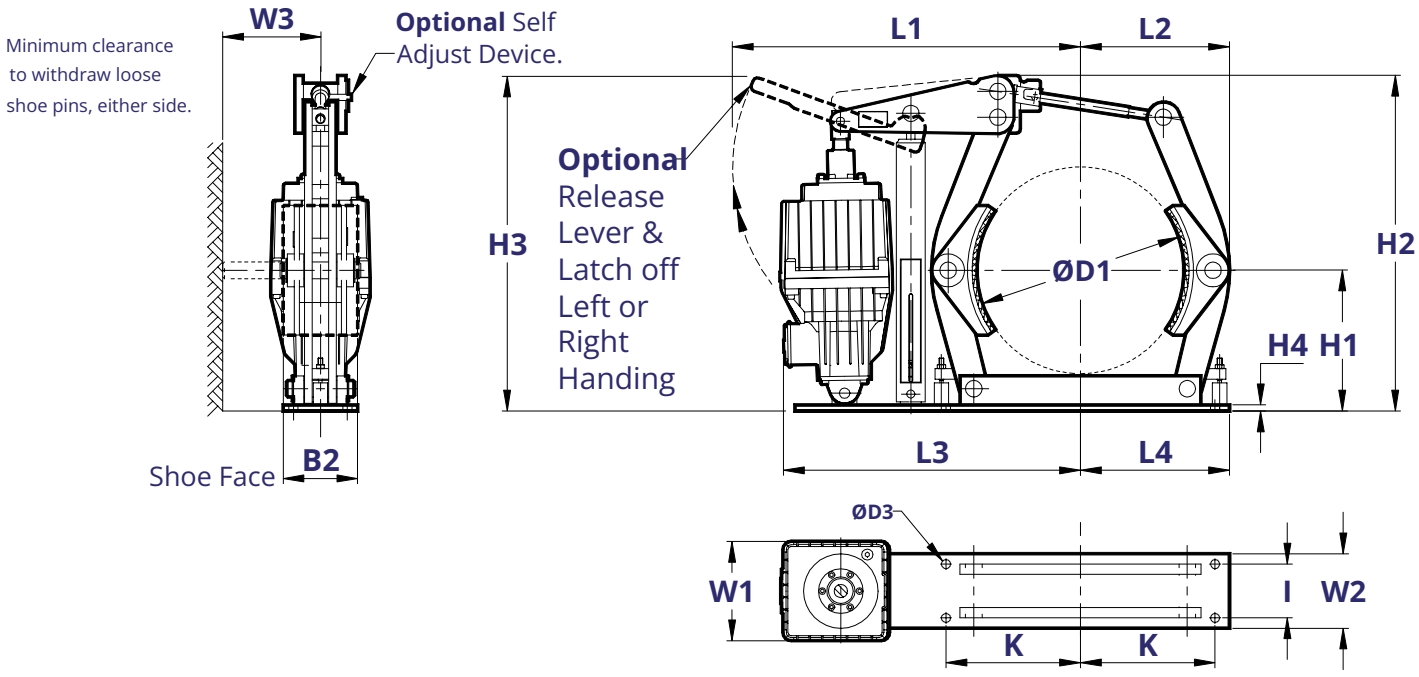
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JDL Series Thruster Drum Brakes

DRAWING
JDL 01.2



Specifications

As printed on the drawing (dual imperial / metric where shown)

1 Alternative Imperial Brakeshoe sizes are not direct conversions of the standard DIN 15435 Metric
2 Torque based on lining μ = 0.42
3 Release indicating Limit Switch Optional

Brake code	Drum size D1 mm (in)	Torque Nm	Nett weight kg	Thruster kW	Thruster A
JDL160-EJ023/5	160 (6)	250	25	0.16	0.5
JDL200-EJ023/5	200 (8)	310	31	0.16	0.5
JDL200-EJ030/5	200 (8)	400	35	0.20	0.5
JDL250-EJ023/5	250 (10)	330	41	0.16	0.5
JDL250-EJ030/5	250 (10)	440	45	0.20	0.5
JDL250-EJ050/6	250 (10)	720	55	0.21	0.5
JDL315-EJ030/5	315 (12)	520	64	0.20	0.5
JDL315-EJ050/6	315 (12)	870	74	0.21	0.5
JDL315-EJ080/6	315 (12)	1,550	75	0.32	1.2
JDL400-EJ050/6	400 (16)	860	105	0.21	0.5
JDL400-EJ080/6	400 (16)	1,620	106	0.32	1.2
JDL400-EJ121/6	400 (16)	2,670	123	0.32	1.2
JDL500-EJ080/6	500 (20)	1,600	128	0.32	1.2
JDL500-EJ121/6	500 (20)	2,910	145	0.32	1.2
JDL500-EJ121/12	500 (20)	2,910	146	0.32	1.2
JDL500-EJ201/6	500 (20)	5,220	145	0.45	1.2
JDL630-EJ201/12	630 (24)	5,220	146	0.45	1.2

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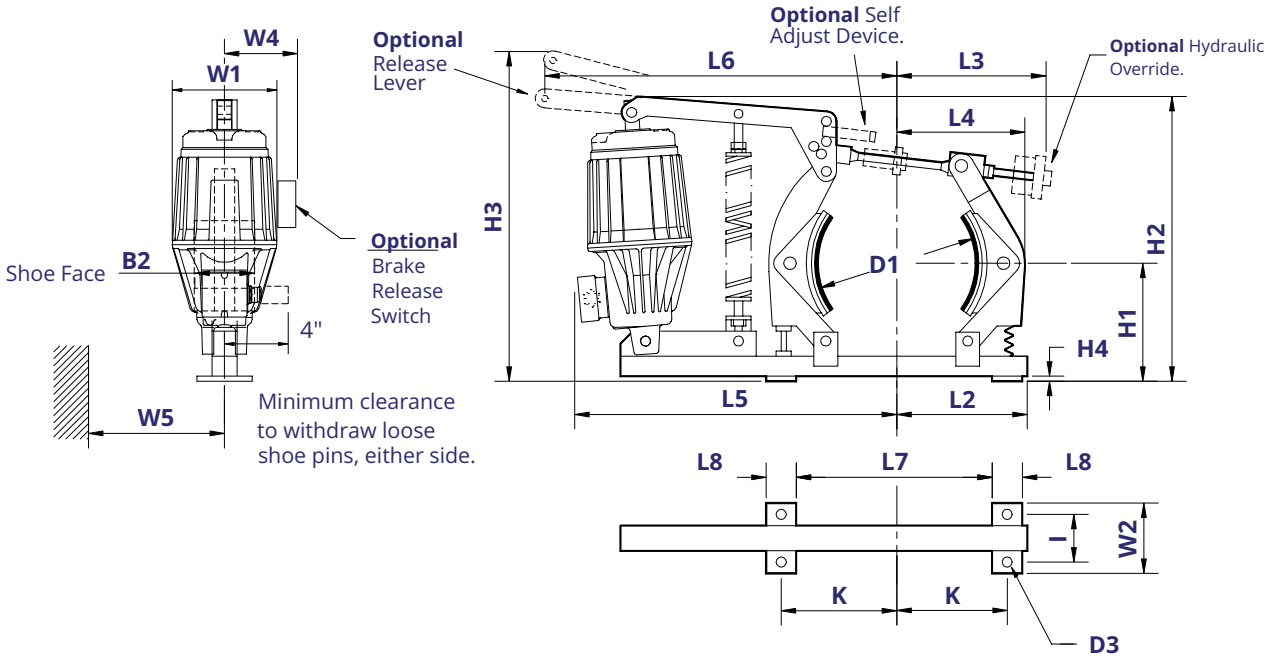
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SMLA Thruster Drum Brakes

DRAWING
SMLA-01.5



Specifications

As printed on the drawing (dual imperial / metric where shown)

1 Torque based on lining μ = 0.38
- Always check available space when replacing existing brakes.

Brake code	Drum size in	Max torque lb-ft	Thruster kVA	Nett weight lb
SMLA6-EB120	6	55	0.25	60
SMLA6-EB220	6	92	0.26	64
SMLA8-EB120	8	94	0.25	68
SMLA8-EB220	8	164	0.26	73
SMLA8-EB300	8	254	0.20	73
SMLA10-EB220	10	210	0.26	86
SMLA10-EB300	10	302	0.20	86
SMLA10-EB50	10	500	0.26	95
SMLA13-EB300	13	390	0.20	176
SMLA13-EB50	13	642	0.26	185
SMLA13-EB80	13	955	0.33	198
SMLA16-EB50	16	800	0.26	247
SMLA16-EB80	16	1,395	0.33	260
SMLA16-EB125	16	2,110	0.40	260
SMLA19-EB125	19	2,407	0.33	396
SMLA19-EB150	19	2,457	0.40	396
SMLA19-EB250	19	4,273	0.46	396
SMLA23-EB125	23	2,530	0.33	617
SMLA23-EB150	23	2,830	0.46	617
SMLA23-EB250	23	4,890	0.46	643
SMLA30-EB250	30	6,140	0.46	855
SMLA30-EB3000	30	8,475	0.60	855

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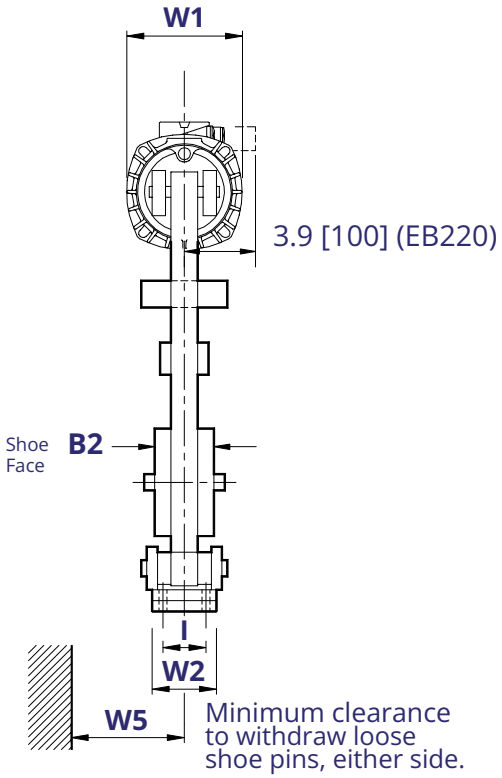
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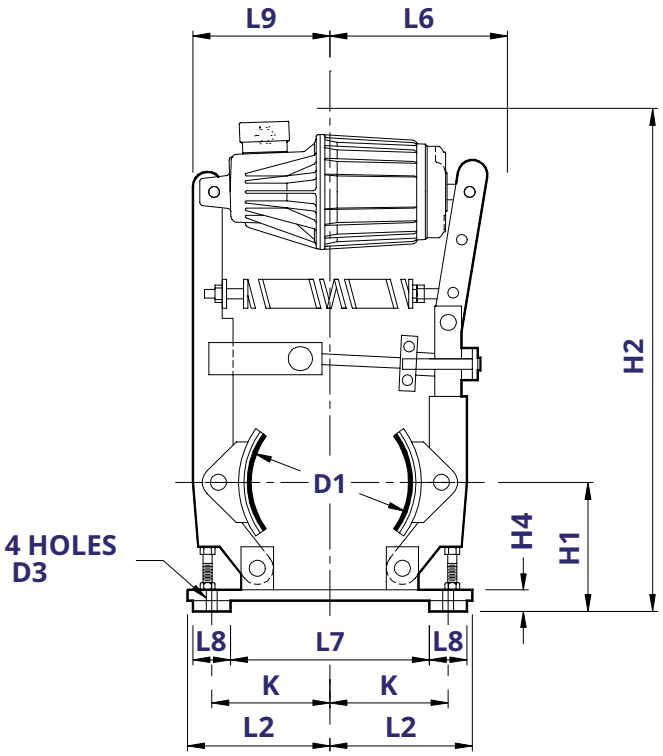
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DLT Thruster Drum Brakes with Elhy Horizontal Thrusters

DRAWING
DLT-01.2





03

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DLT Thruster Drum Brakes with Elhy Horizontal Thrusters

specifications

DRAWING
DLT-01.2

Specifications

Dual imperial / metric (in/mm, lb-ft/Nm, lb/kg, ft³/m³); metric to DIN 15435

- **OPTIONAL EXTRAS:**
  - Self adjusting mechanisms
  - Various monitor switches
  - Various brake releases.
- * Electronic Modulator Unit Available.
- Always check available space when replacing existing brakes.
- NOTE: Alternative imperial brake shoe sizes are not direct conversions of the standard DIN 15435 metric.
- Minimum clearance to withdraw loose shoe pins, either side

Brake code — thruster type	Drum size D1 in/mm	Max torque lb-ft/Nm	Nett lb/kg	Gross lb/kg	Volume ft³/m³	Thruster KVA	B2	D3	H1	H2	H4	I
DLT8-EB220 / DLT200-EB220	8 / 200	145 / 196	88 / 40	110 / 50	6.4 / 0.18	0.25	2.75/70	0.563/14	6.31/160	25.56/650	0.866/22	2.165/55
DLT10-EB220 / DLT250-EB220	10 / 250	173 / 235	104 / 47	130 / 59	8.1 / 0.23	0.25	3.56/90	0.688/18	7.50/190	29.31/745	1.26/32	2.559/65
DLT10-EB300 / DLT250-EB300	10 / 250	220 / 300	112 / 51	141 / 64	7.1 / 0.20	0.18	3.56/90	0.688/18	7.50/190	27.94/710	1.26/32	2.559/65
DLT10-EB50 / DLT250-EB50	10 / 250	369 / 500	112 / 51	141 / 64	7.1 / 0.20	0.3	3.56/90	0.688/18	7.50/190	27.94/710	1.26/32	2.559/65
DLT12-EB220 / DLT315-EB220	12 / 315	195 / 265	214 / 97	267 / 121	9.2 / 0.26	0.25	4.31/110	0.688/18	9.06/230	31.88/810	0.98/25	3.150/80
DLT12-EB300 / DLT315-EB300	12 / 315	274 / 370	220 / 100	276 / 125	9.5 / 0.27	0.18	4.31/110	0.688/18	9.06/230	32.31/820	0.98/25	3.150/80
DLT12-EB50 / DLT315-EB50	12 / 315	420 / 569	220 / 100	276 / 125	9.5 / 0.27	0.3	4.31/110	0.688/18	9.06/230	32.31/820	0.98/25	3.150/80
DLT16-EB50 / DLT400-EB50	16 / 400	515 / 700	310 / 140	385 / 175	15.9 / 0.45	0.3	5.51/140	0.866/22	11.0/280	39.76/1010	0.67/17	3.937/100
DLT20-EB80 / DLT500-EB80	20 / 500	1250 / 1700	495 / 225	620 / 280	19.4 / 0.55	0.47	7.09/180	.866/22	13.39/340	45.28/1150	0.67/17	5.118/130
DLT20-EB125 / DLT500-EB125	20 / 500	1620 / 2200	495 / 225	620 / 280	19.4 / 0.55	0.47	7.09/180	.866/22	13.39/340	45.28/1150	0.67/17	5.118/130

Brake code — thruster type	K	L2	L6	L7	L8	L9	W1	W2	W5
DLT8-EB220 / DLT200-EB220	5.709/145	6.88/175	8.69/220	9.44/240	2/50	6.88/175	6.31/160	3.13/80	5.12/130
DLT10-EB220 / DLT250-EB220	7.09/180	8.44/215	10.63/270	12.25/310	2/50	9.06/230	6.31/160	3.94/100	5.75/146
DLT10-EB300 / DLT250-EB300	7.09/180	8.44/215	10.63/270	12.25/310	2/50	8.69/220	6/150	3.94/100	5.75/146
DLT10-EB50 / DLT250-EB50	7.09/180	8.44/215	10.63/270	12.25/310	2/50	8.69/220	7.06/180	3.94/100	5.75/146
DLT12-EB220 / DLT315-EB220	8.661/220	9.81/250	11.06/280	14.19/360	2.56/65	9.44/240	6.31/160	4.75/120	7.68/195
DLT12-EB300 / DLT315-EB300	8.661/220	9.81/250	11.06/280	14.19/360	2.56/65	9.44/240	6/150	4.75/120	7.68/195
DLT12-EB50 / DLT315-EB50	8.661/220	9.81/250	11.06/280	14.19/360	2.56/65	9.44/240	7.06/180	4.75/120	7.68/195
DLT16-EB50 / DLT400-EB50	10.630/270	11.81/300	14.96/380	19.30/490	1.97/50	14.57/370	8.66/220	5.91/150	12.60/320
DLT20-EB80 / DLT500-EB80	12.795/325	14.17/360	16.14/410	22.44/570	3.15/80	15.75/400	10.63/270	6.69/170	15.75/400
DLT20-EB125 / DLT500-EB125	12.795/325	14.17/360	16.14/410	22.44/570	3.15/80	15.75/400	10.63/270	6.69/170	15.75/400

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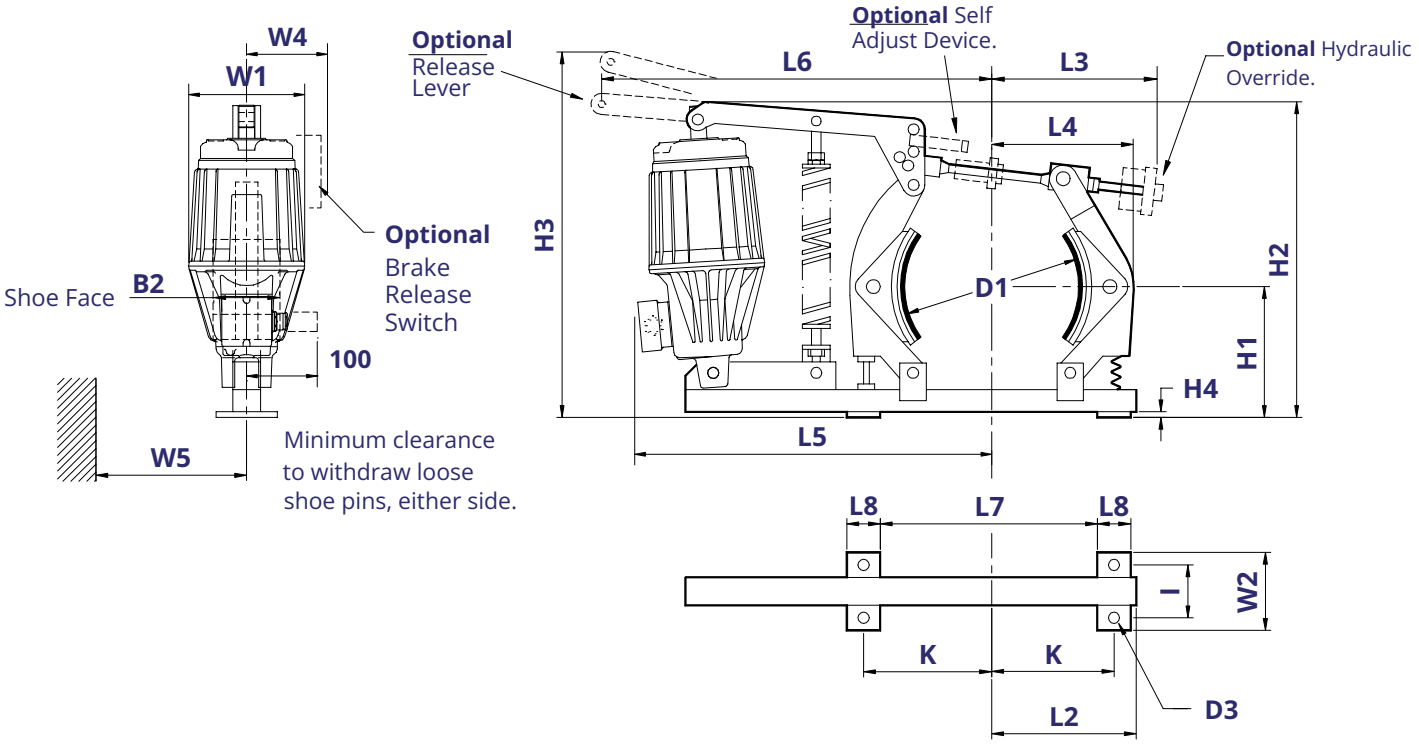
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DL Series Thruster Drum Brakes with Elhy Thruster

DRAWING
DLM-01.3



03

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DL Series Thruster Drum Brakes with Elhy Thruster

specifications

DRAWING
DLM-01.3

Specifications

As printed on the drawing (dual imperial / metric where shown)

1 General Industrial Pattern prefix code: GDL Steelworks prefix code: SDL High Integrity prefix code: HDL

2 Alternative Imperial Brakeshoe sizes are not direct conversions of the standard DIN 15435 Metric

3 Torque based on lining μ = 0.38

- Always check available space when replacing existing brakes

Brake code	Drum size D1 mm (in)	Torque Nm	Nett weight kg	Thruster kW
DL160-EB120	160 (6)	79	27	0.25
DL160-EB220	160 (6)	131	29	0.26
DL200-EB120	200 (8)	127	31	0.25
DL200-EB220	200 (8)	222	33	0.26
DL200-EB300	200 (8)	344	33	0.20
DL250-EB220	250 (10)	285	39	0.26
DL250-EB300	250 (10)	410	39	0.20
DL250-EB50	250 (10)	680	43	0.26
DL315-EB300	315 (12)	505	80	0.20
DL315-EB50	315 (12)	830	84	0.26
DL315-EB80	315 (12)	1235	90	0.33
DL400-EB50	400 (16)	1080	112	0.26
DL400-EB80	400 (16)	1890	118	0.33
DL400-EB125	400 (16)	2860	118	0.40
DL500-EB125	500 (20)	3380	180	0.40
DL500-EB150	500 (20)	3450	180	0.46
DL500-EB250	500 (20)	6000	210	0.46
DL630-EB125	630 (24)	3700	280	0.40
DL630-EB150	630 (24)	4140	280	0.46
DL630-EB250	630 (24)	7150	292	0.46
DL710-EB250	710	7750	400	0.46
DL710-EB3000	710	10700	406	0.50

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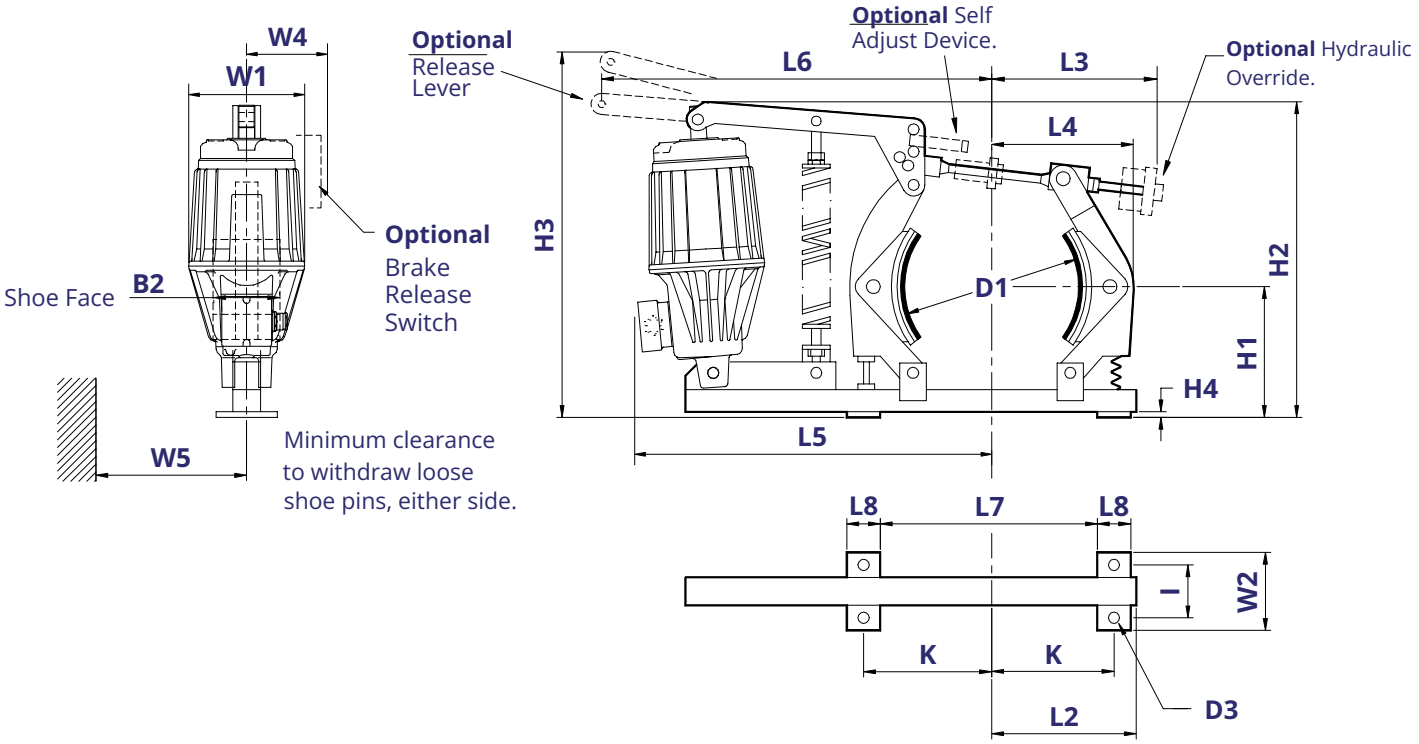
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DL Drum Brakes with Eldro Thruster

DRAWING
DLM-02.1



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DL Drum Brakes with Eldro Thruster

specifications

DRAWING
DLM-02.1

Specifications

Metric (mm, Nm, kg, kW) as DIN 15435

1 General Industrial Pattern prefix code: GDL Steelworks prefix code: SDL High Integrity prefix code: HDL
2 Alternative Imperial Brakeshoe sizes are not direct conversions of the standard DIN 15435 Metric
3 Torque based on lining μ = 0.38

- Always check available space when replacing existing brakes
- Optional release lever, brake release switch, self adjust device and hydraulic override
- Minimum clearance to withdraw loose shoe pins, either side

Brake code	Drum size D1 mm (in)	Torque Nm	Nett weight kg	Thruster kW	B2	D3	H1	H2	H3	H4	I	K	L2	L3	L4	L5	L6	L7	L8	W1	W2	W4	W5
DL160-ED23	160 (6)	131	29	0.3	55	11	121	387	392	6	76	101.5	135	350	205	475	365	153	50	160	105	120	112
DL200-ED23	200 (8)	222	33	0.3	70	14	160	420	440	8	55	145	175	395	175	525	505	240	50	160	84	98	125
DL200-ED30	200 (8)	344	33	0.26	70	14	160	490	500	8	55	145	175	395	175	490	440	240	50	160	84	98	125
DL250-ED23	250 (10)	285	39	0.3	90	18	190	450	480	8	65	180	215	360	220	555	570	310	50	160	100	98	150
DL250-ED30	250 (10)	410	39	0.26	90	18	190	550	600	8	65	180	215	360	220	525	590	310	50	160	100	98	150
DL250-ED50	250 (10)	680	43	0.3	90	18	190	570	630	8	65	180	215	360	220	525	590	310	50	195	100	98	150
DL315-ED30	315 (12)	505	80	0.26	110	18	230	600	650	8	80	220	250	445	260	585	660	360	65	160	120	115	183
DL315-ED50	315 (12)	830	84	0.3	110	18	230	600	650	8	80	220	250	445	260	600	660	360	65	195	120	115	183
DL315-ED80	315 (12)	1235	90	0.8	110	18	230	600	650	8	80	220	250	445	260	610	660	360	65	195	120	115	183
DL400-ED50	400 (16)	1080	112	0.3	140	22	280	600	620	17	100	270	300	500	323	680	800	490	50	195	150	135	164
DL400-ED80	400 (16)	1890	118	0.8	140	22	280	600	620	17	100	270	300	500	323	680	800	490	50	195	150	135	164
DL400-ED121	400 (16)	2835	133	0.8	140	22	280	600	620	17	100	270	300	500	323	680	800	490	50	240	150	135	164
DL500-ED80	500 (20)	2250	180	0.8	180	22	340	760	800	17	130	325	368	—	390	750	860	570	80	195	200	146	200
DL500-ED121	500 (20)	3380	195	0.8	180	22	340	760	800	17	130	325	368	—	390	750	860	570	80	240	200	146	200
DL500-ED201	500 (20)	5633	195	0.85	180	22	340	760	800	17	130	325	368	—	390	750	860	570	80	240	200	146	200
DL630-ED80	630 (24)	2466	280	0.8	225	27	420	920	—	16	170	400	440	—	490	920	—	500	180	195	240	246	236
DL630-ED121	630 (24)	3700	295	0.8	225	27	420	920	—	16	170	400	440	—	490	920	—	500	180	240	240	246	236
DL630-ED201	630 (24)	6166	295	0.85	225	27	420	920	—	16	170	400	440	—	490	920	—	500	180	240	240	246	236
DL710-ED121	710 (—)	4279	400	0.8	255	27	470	1050	—	17	190	450	500	—	540	1005	—	580	200	240	260	150	390
DL710-ED201	710 (—)	7133	400	0.8	255	27	470	1050	—	17	190	450	500	—	540	1005	—	580	200	240	260	150	390
DL710-ED301	710 (—)	10700	409	0.9	255	27	470	1050	—	17	190	450	500	—	540	1005	—	580	200	240	260	150	390

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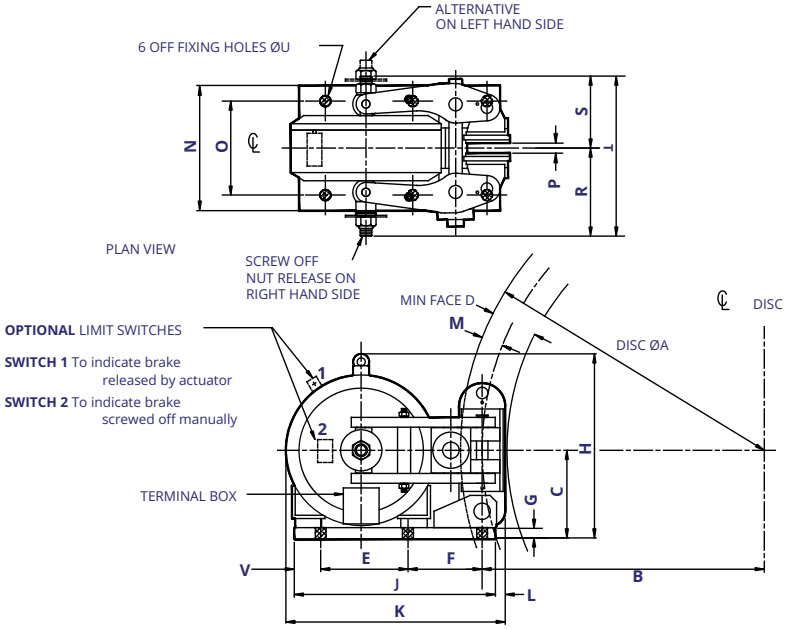
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CX Emergency Caliper Disc Brakes

DRAWING
CXC-1.5



Specifications

Dual imperial / metric (lb(f)/N, lb/Kg, in/mm, in²/cm²)

- **OPTIONAL EXTRAS:**
  – Various monitor switches
  – Weatherproof
  – Pin Lubricators.
- Always check available space when replacing existing brakes.
- CX Series Brakes are intended for Emergency Duty Only.
- **Note:** Braking torque is approximately +7% with downward disc rotation and -7% with upward disc rotation.
- Spring applied / DC magnet released
- For any disc dia. A: braking torque = W × (A/2 − M)/1000 Nm = W × (A/2 − M)/12 lb-ft
- Torque for two calipers on one disc is double the above
- All RUN powers are 100% continuously rated
- Optional limit switches — switch 1 indicates brake released by actuator; switch 2 indicates brake screwed off manually
- 6 off fixing holes ØU; screw-off nut release on right hand side (alternative on left hand side)
- * = details on application

Brake code	Braking force W lb(f)/N	Shaft reaction lb(f)/N	Caliper weight lb/Kg	DC coil power START (watts)	RUN (watts)	Total pad area in²/cm²	Radial pad width in/mm	Min disc dia. in/mm	Offset B for disc dia. A in/mm	C	D	E
CX10	2248 / 10000	2248 / 10000	196 / 89	2200	100	15.5 / 100	2.36 / 60	15 / 380	0.5 × A − 1.18 / 0.5 × A − 30	5.90/150	2.56/65	5.90/150
CX20	4496 / 20000	4496 / 20000	225 / 102	2500	120	31 / 200	2.75 / 70	17.7 / 450	0.5 × A − 1.48 / 0.5 × A − 37.5	6.50/165	3.07/78	6.30/160
CX40	8992 / 40000	8992 / 40000	346 / 157	3800	200	46.5 / 300	3.27 / 83	19.69 / 500	0.5 × A − 1.77 / 0.5 × A − 45	8.58/218	4.02/102	7.87/200
CX60	13489 / 60000	13489 / 60000	617 / 280	4200	230	64.3 / 415	3.66 / 93	23.6 / 600	0.5 × A − 2.24 / 0.5 × A − 57	9.72/247	4.53/115	9.45/240
CX90	20233 / 90000	20233 / 90000	970 / 440	5700	290	101 / 650	4.72 / 120	37.81 / 960	0.5 × A − 2.64 / 0.5 × A − 67	10.43/265	5.51/140	10.43/265
CX135	30350 / 135000	30350 / 135000	2460 / 1115	5800	300	159 / 1025*	5.63 / 143	39.76 / 1010*	0.5 × A − 3.23 / 0.5 × A − 82	16.5/420	6.7/170	13.78/350

Brake code	F	G	H	J	K	L	M	N	O	P	R	S	T	U	V
CX10	4.92/125	0.60/15	11.81/300	12.91/325	13.60/345	0.39/10	1.18/30	8.86/225	7.48/190	1.18/30	6.30/160	5.91/150	12.20/310	0.60/15	2.09/53
CX20	5.24/133	0.71/18	13.58/345	14.69/373	14.95/380	0.57/14.5	1.47/37.5	9.84/250	8.27/210	1.18/30	7.36/187	6.42/163	13.78/350	0.71/18	2.24/57
CX40	6.69/170	0.94/24	16.93/430	19.69/500	20.78/528	0.75/19	1.77/45	11.81/300	9.45/240	1.18/30	9.17/233	6.97/177	16.14/410	1.06/27	3.74/95
CX60	7.87/200	1.06/27	19.69/500	22.05/560	22.52/572	0.79/20	2.24/57	13.78/350	11.42/290	1.18/30	9.65/245	7.68/195	17.32/440	1.18/30	3.35/85
CX90	8.86/225	1.18/30	22.05/560	24.02/610	26.22/666	1.18/30	2.63/67	14.96/380	11.22/285	1.18/30	11.10/282	8.39/213	19.49/495	1.30/33	3.15/80
CX135	13.78/350	1.77/45	32.7/830	34.64/880	37/940	0.35/9	3.23/82	18.9/480	15.75/400	1.18/30	15/380	12.2/310	27.2/690	1.57/40	4.09/104

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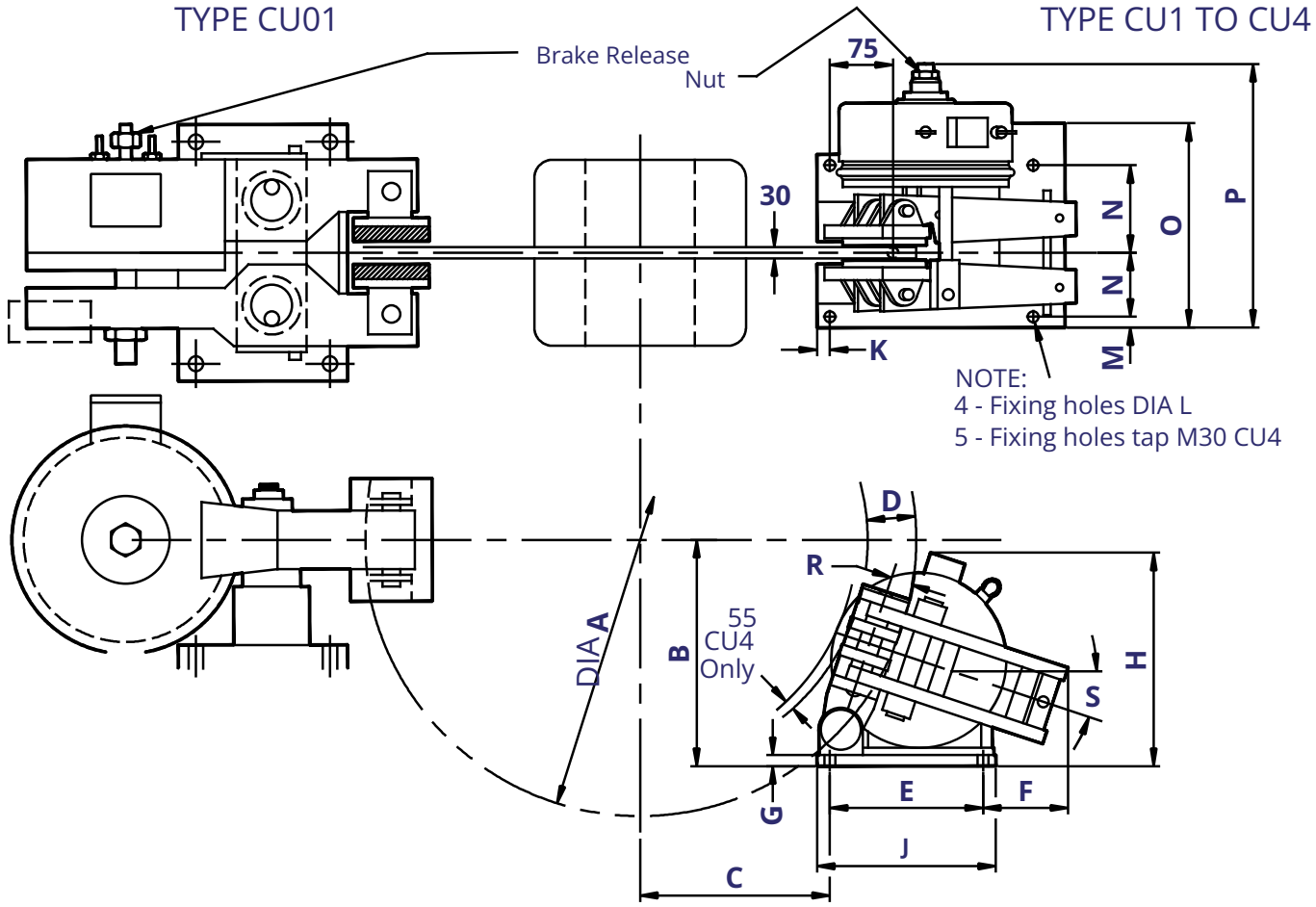
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CU Service Caliper Disc Brakes

(Type CU01, CU1 to CU4)

DRAWING
CUM-01.1



04

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CU Service Caliper Disc Brakes

specifications · (Type CU01, CU1 to CU4)

DRAWING
CUM-01.1

Specifications

Metric (mm, Nm, N, Kg, W)

- May be built opposite hand to list if specified.
- **OPTIONAL EXTRAS**
  - Limit Switches
  - Pin Lubricators
  - Self-Adjusting (types CU1/2/3/4 only)
- **NOTE:** * For CU01 & CU1 specify Type 1 for 30mm disc or Type 2 for 15mm disc ACU01 & ACU1 code for inbuilt rectifier (1 ph. 215-415 Volts)
- 1 Braking torque is approximately +7% with downward disc rotation and -7% when upward. (based on μ=0.4)
- Spring applied / DC magnet released
- For any disc dia. A: braking torque = (W/1000) × ((A/2) − R) Nm
- Torque for two calipers on one disc is double the above
- 4 fixing holes DIA L; 5 fixing holes tap M30 on CU4

Brake code	Disc dia. A mm	Torque Nm	Shaft reaction N	Caliper weight Kg	DC coil INRUSH W	RUN W	Braking force W (N)	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S°
CU01 / ACU01	250	137	1475	30	600	45	1440	85	142	55	92	126	15	215	116	12	13.5	14	73.5	175	220	25	0
CU01 / ACU01	315	186	1475	30	600	45	1440	85	175	55	92	126	15	215	116	12	13.5	14	73.5	175	220	25	0
CU01 / ACU01	400	255	1475	30	600	45	1440	85	217	55	92	126	15	215	116	12	13.5	14	73.5	175	220	25	0
ACU1	315	236	1920	50	400	100	1840	171	84	74	225	82	18	250	265	20	14	15	95	300	355	30	15
ACU1	400	316	1920	50	400	100	1840	182	125	74	225	82	18	250	265	20	14	15	95	300	355	30	15
ACU1	500	405	1920	50	400	100	1840	195	173	74	225	82	18	250	265	20	14	15	95	300	355	30	15
CU1	315	314	2550	50	690	100	2450	171	84	74	225	82	18	250	265	20	14	15	95	300	355	30	15
CU1	400	421	2550	50	690	100	2450	182	125	74	225	82	18	250	265	20	14	15	95	300	355	30	15
CU1	500	540	2550	50	690	100	2450	195	173	74	225	82	18	250	265	20	14	15	95	300	355	30	15
CU2	400	1010	6870	142	1900	200	6570	251	102	102	320	135	20	330	390	35	22	30	125	430	545	43	15
CU2	500	1350	6870	142	1900	200	6570	263	150	102	320	135	20	330	390	35	22	30	125	430	545	43	15
CU2	630	1800	6870	142	1900	200	6570	280	213	102	320	135	20	330	390	35	22	30	125	430	545	43	15
CU2	710	2060	6870	142	1900	200	6570	291	252	102	320	135	20	330	390	35	22	30	125	430	545	43	15
CU3	500	2870	15900	230	2500	390	15150	346	86	120	420	130	25	475	480	30	27	30	150	505	610	60	20
CU3	630	3850	15900	230	2500	390	15150	368	146	120	420	130	25	475	480	30	27	30	150	505	610	60	20
CU3	710	4460	15900	230	2500	390	15150	381	184	120	420	130	25	475	480	30	27	30	150	505	610	60	20
CU3	800	5140	15900	230	2500	390	15150	397	226	120	420	130	25	475	480	30	27	30	150	505	610	60	20
CU4	630	5500	22600	292	2950	460	21600	400	112	120	360	220	25	540	420	30	M30	30	140	490	590	60	25
CU4	710	6360	22600	292	2950	460	21600	417	149	120	360	220	25	540	420	30	M30	30	140	490	590	60	25
CU4	800	7330	22600	292	2950	460	21600	436	189	120	360	220	25	540	420	30	M30	30	140	490	590	60	25

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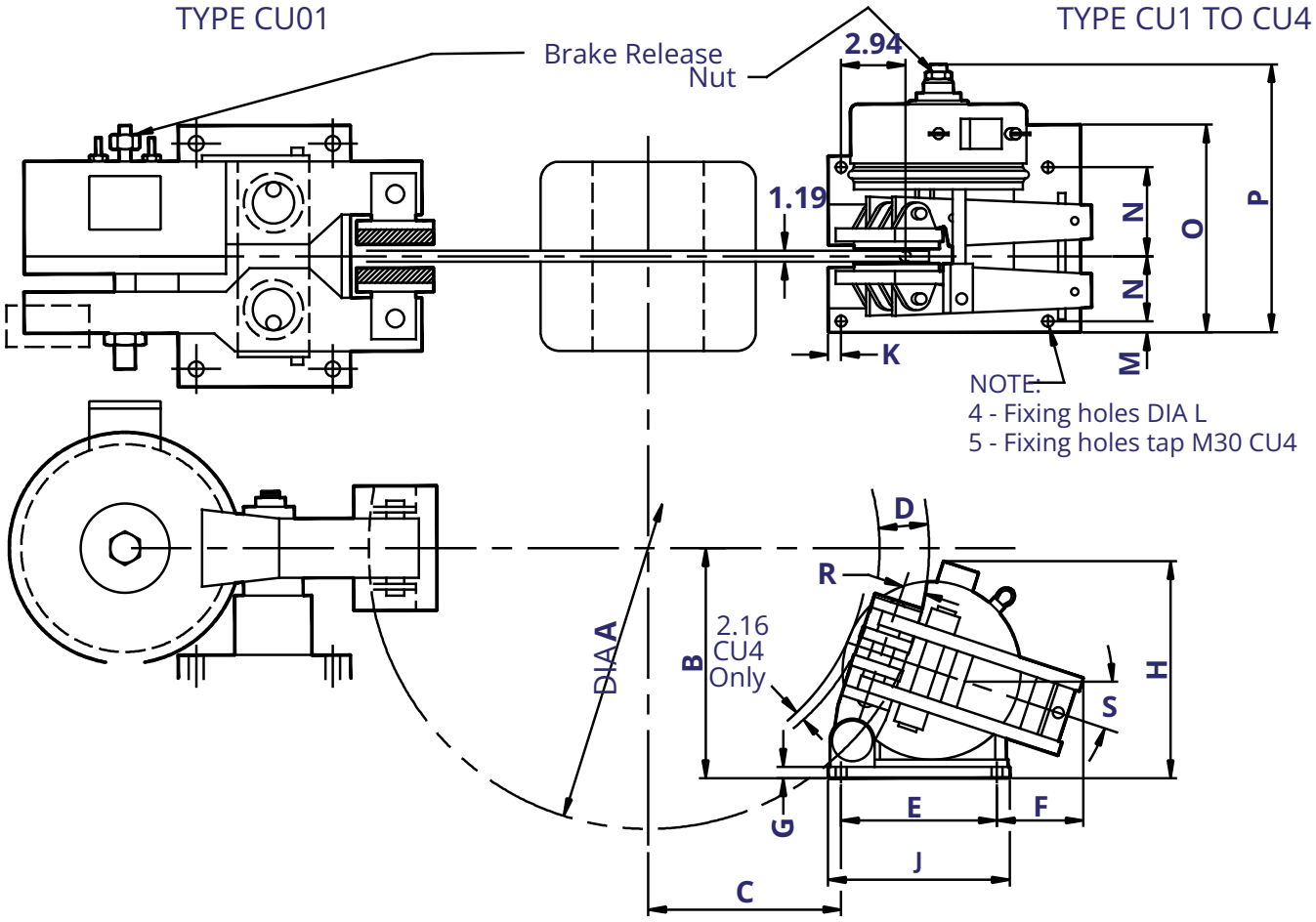
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CU Service Caliper Disc Brakes

Imperial

DRAWING
CUA-01.0



04

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CU Service Caliper Disc Brakes

Imperial — specifications

DRAWING
CUA-01.0

Specifications

Imperial (in, lbft, lb(f), lb, W)

- May be built opposite hand to list if specified.
- **OPTIONAL EXTRAS**
  - Limit Switches
  - Pin Lubricators
  - Self-Adjusting (types CU1/2/3/4 only)
- **NOTE:** * For CU01 & CU1 specify Type 1 for 30mm disc or Type 2 for 15mm disc ACU01 & ACU1 code for inbuilt rectifier (1 ph. 215-415 Volts)
- 1 Braking torque is approximately +7% with downward disc rotation and -7% when upward. (based on μ=0.4)
- Spring applied / DC magnet released
- 4 fixing holes DIA L; 5 fixing holes tap M30 on CU4
- For any disc dia. A: braking torque = (W/12) × ((A/2) − R) lbft
- Torque for two calipers on one disc is double the above

Brake code	Disc dia. A in	Torque lbft	Shaft reaction lb(f)	Caliper weight lb	DC coil INRUSH W	RUN W	Braking force W lb(f)	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S°
CU01 / ACU01	9.88	101	332	66	600	45	324	3.346	5.591	2.19	3.63	5.00	0.56	8.44	4.56	0.50	0.50	0.56	2.88	6.88	8.69	1.00	0
CU01 / ACU01	12.38	137	332	66	600	45	324	3.346	6.890	2.19	3.63	5.00	0.56	8.44	4.56	0.50	0.50	0.56	2.88	6.88	8.69	1.00	0
CU01 / ACU01	15.75	188	332	66	600	45	324	3.346	8.543	2.19	3.63	5.00	0.56	8.44	4.56	0.50	0.50	0.56	2.88	6.88	8.69	1.00	0
ACU1	12.38	174	431	110	400	100	413	6.732	3.307	2.94	8.88	3.25	0.69	9.81	10.44	0.81	0.56	0.63	3.75	11.81	14.00	1.19	15
ACU1	15.75	229	431	110	400	100	413	7.165	4.921	2.94	8.88	3.25	0.69	9.81	10.44	0.81	0.56	0.63	3.75	11.81	14.00	1.19	15
ACU1	19.69	287	431	110	400	100	413	7.677	6.811	2.94	8.88	3.25	0.69	9.81	10.44	0.81	0.56	0.63	3.75	11.81	14.00	1.19	15
CU1	12.38	232	573	110	690	100	550	6.732	3.307	2.94	8.88	3.25	0.69	9.81	10.44	0.81	0.56	0.63	3.75	11.81	14.00	1.19	15
CU1	15.75	311	573	110	690	100	550	7.165	4.921	2.94	8.88	3.25	0.69	9.81	10.44	0.81	0.56	0.63	3.75	11.81	14.00	1.19	15
CU1	19.69	398	573	110	690	100	550	7.677	6.811	2.94	8.88	3.25	0.69	9.81	10.44	0.81	0.56	0.63	3.75	11.81	14.00	1.19	15
CU2	15.75	745	1540	313	1900	200	1480	9.882	4.016	4.00	12.63	5.31	0.81	13.00	15.38	1.38	0.88	1.19	4.94	16.94	21.44	1.69	15
CU2	19.69	996	1540	313	1900	200	1480	10.354	5.906	4.00	12.63	5.31	0.81	13.00	15.38	1.38	0.88	1.19	4.94	16.94	21.44	1.69	15
CU2	24.81	1330	1540	313	1900	200	1480	11.024	8.386	4.00	12.63	5.31	0.81	13.00	15.38	1.38	0.88	1.19	4.94	16.94	21.44	1.69	15
CU2	27.94	1520	1540	313	1900	200	1480	11.457	9.921	4.00	12.63	5.31	0.81	13.00	15.38	1.38	0.88	1.19	4.94	16.94	21.44	1.69	15
CU3	19.69	2120	3575	507	2500	390	3410	13.622	3.386	4.75	16.56	5.13	1.00	18.69	18.88	1.19	1.06	1.19	5.88	19.88	24.00	2.38	20
CU3	24.81	2840	3575	507	2500	390	3410	14.488	5.748	4.75	16.56	5.13	1.00	18.69	18.88	1.19	1.06	1.19	5.88	19.88	24.00	2.38	20
CU3	27.94	3290	3575	507	2500	390	3410	15.000	7.244	4.75	16.56	5.13	1.00	18.69	18.88	1.19	1.06	1.19	5.88	19.88	24.00	2.38	20
CU3	31.50	3790	3575	507	2500	390	3410	15.630	8.898	4.75	16.56	5.13	1.00	18.69	18.88	1.19	1.06	1.19	5.88	19.88	24.00	2.38	20
CU4	24.81	4050	5080	645	2950	460	4860	15.748	4.409	4.75	14.19	8.69	1.00	21.25	16.50	1.19	1.25	1.19	5.50	19.31	23.25	2.38	25
CU4	27.94	4690	5080	645	2950	460	4860	16.417	5.866	4.75	14.19	8.69	1.00	21.25	16.50	1.19	1.25	1.19	5.50	19.31	23.25	2.38	25
CU4	31.50	5400	5080	645	2950	460	4860	17.165	7.441	4.75	14.19	8.69	1.00	21.25	16.50	1.19	1.25	1.19	5.50	19.31	23.25	2.38	25

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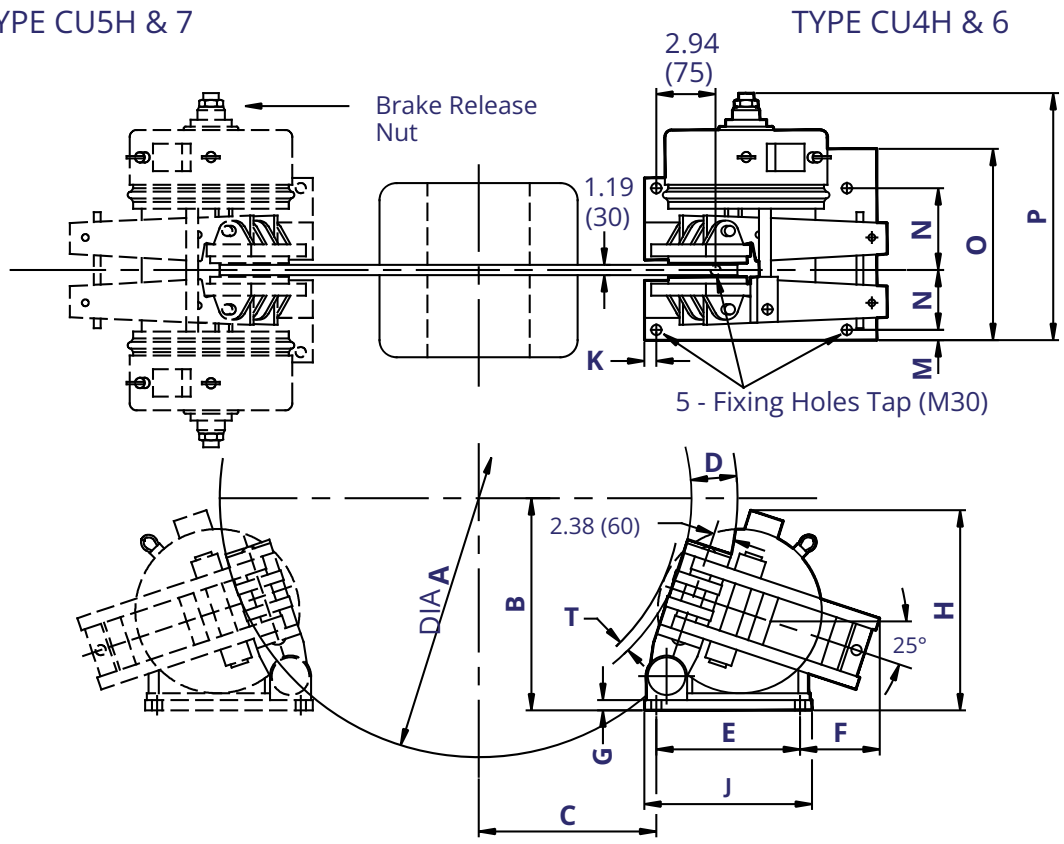
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CU Emergency Caliper Disc Brakes

(Type CU4H, CU5H, CU6, CU7)

DRAWING
CUB-01.0



Specifications

Dual imperial / metric (lb(f)/N, lb/Kg, in/mm)

- **OPTIONAL EXTRAS:**
  - Various monitor switches
  - Weatherproof
  - Pin Lubricators.
- Always check available space when replacing existing brakes.
- Spring applied / DC magnet released
- For any disc dia. A: braking torque = (W/1000) × ((A/2) − 60) Nm = W × ((A/2) − 2.36)/12 lbft
- Torque for two calipers on one disc is double the above
- Coils marked * are for max 6 starts per hour; all RUN powers are 100% continuously rated
- 5 fixing holes tap (M30)

Brake code	Braking force W lb(f)/N	Shaft reaction lb(f)/N	Caliper weight lb/Kg	DC coil START W	RUN W	Height B for disc dia. A in/mm	Offset C in/mm	D	E	F
CU4H	6610 / 29400	7060 / 31400	644 / 292	2950	460	0.2113A+10.51 / 0.2113A+267	0.4532A−6.81 / 0.4532A−173	4.75/120	14.19/360	8.69/220
CU5H (double magnet)	11470 / 51000	12130 / 53960	1035 / 469	5900	920	0.2113A+10.51 / 0.2113A+267	0.4532A−6.81 / 0.4532A−173	4.75/120	14.19/360	8.69/220
CU6	4830 / 21500	5070 / 22560	485 / 220	*2250	350	0.2113A+9.53 / 0.2113A+242	0.4532A−6.81 / 0.4532A−173	4.75/120	14.19/360	7.50/190
CU7 (double magnet)	11470 / 51000	12130 / 53960	728 / 330	*4500	700	0.2113A+9.53 / 0.2113A+242	0.4532A−6.81 / 0.4532A−173	4.75/120	14.19/360	7.50/190

Brake code	G	H	J	K	M	N	O	P	T
CU4H	1.00/25	21.25/540	16.56/420	1.19/30	1.19/30	5.50/140	19.31/490	23.25/590	2.19/55
CU5H (double magnet)	1.00/25	21.25/540	16.56/420	1.19/30	7.06/180	5.50/140	26.56/675	33.06/840	2.19/55
CU6	1.00/25	19.50/495	16.56/420	1.19/30	1.19/30	5.50/140	18.13/460	21.44/545	1.38/35
CU7 (double magnet)	1.00/25	19.50/495	16.56/420	1.19/30	7.06/155	5.50/140	23.06/585	25.81/655	1.38/35

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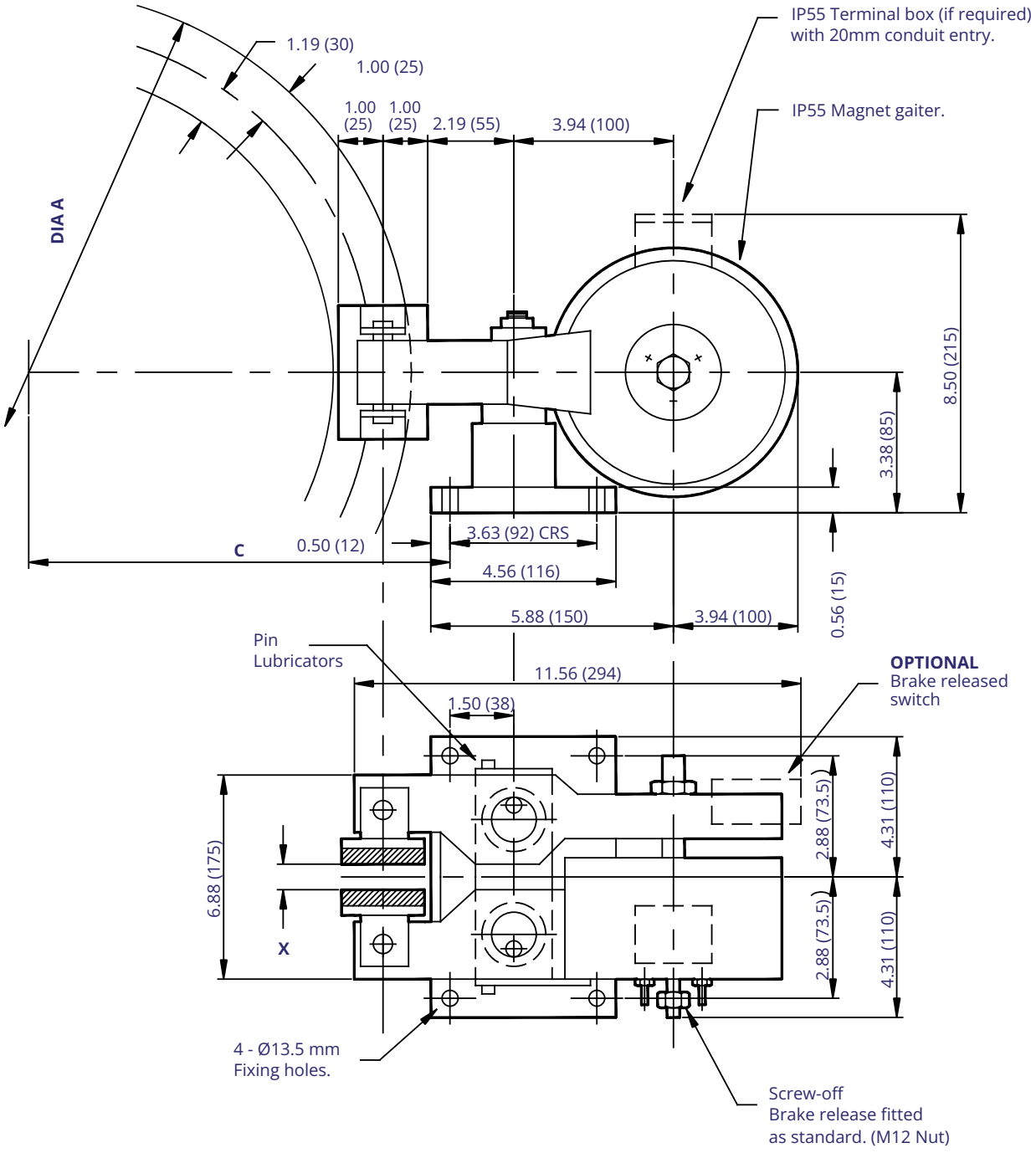
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CU01 Caliper Disc Brake

Spring applied / DC magnet released

DRAWING
CU01-01.0



Notes

- Type 1 - Dim X = 1.18 (30)
- Type 2 - Dim X = 0.51 (15)
- C = (A/2) + 0.64 inches
- C = (A/2) + 17 mm
- Holding force = 325 lb(f) (1440 N)
- Holding Torque = 1440 × ((A-50)/2000) Nm = 325 × ((A-1.95)/24) lbft
- Approximate weight 66 lbs (30 Kg)
- All dimensions are in inches (millimeters)

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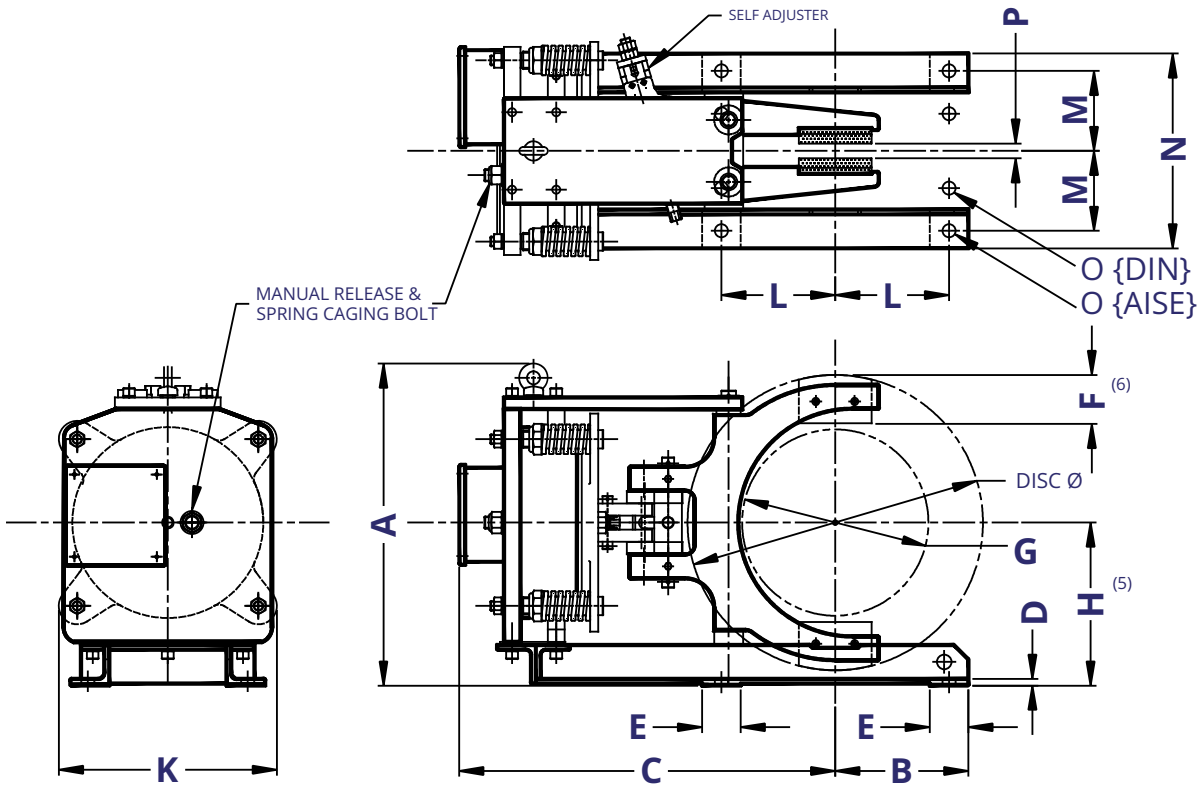
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MBC Magnetic Caliper Disc Brakes

Auto wear adjustment, zero overhung load, large pad area; footprints interchangeable with DIN and AISE shoe brakes

DRAWING
DMBC-01.1



Specifications

Dual imperial / metric (in/mm, Lb-Ft/Nm, Lbs/Kg, in²/cm²)

1 SOLID AND VENTILATED DISCS AVAILABLE
2 VENTILATED DISCS ARE 1.19" {30 mm} THICK
3 SERIES AND SHUNT COILS AVAILABLE
4 DIN in mm, AISE in inches.

5 ASSEMBLED UNIT SLIDES INTO PLACE
6 EASY PAD RE & RE

7 MAX CPLG/HUB DIA.
- Spring applied / DC magnet released

- Auto wear adjustment — zero overhung load — large pad area
- Footprints interchangeable with DIN and AISE shoe brakes
- Solid and ventilated discs available; ventilated discs are 1.19 in (30 mm) thick
- A full range of magnets and friction linings is available to suit particular torque requirements
- Cold STATIC torque values must be down rated by at least 20 percent
- Max torques listed are dynamic and are based on minimum air gap, largest spring and friction coefficient of 0.42
- Custom motor mounting hardware available

Model	Disc Ø in/mm	Max dynamic torque (μ=0.4) Lb-Ft/Nm	Weight Lbs/Kg	DC coil START/RUN Watts	Pad total area in²/cm²	A	B	C	D	E	F	G	H
MBC-1317 / MBC-3143	17 / 432	700 / 950	356 / 162	800 / 200	45 / 288	18.31/465	6.75/245	23.03/585	0.50/12	1.97/50	2.70/69	11.3/287	9.88/230
MBC-1621 / MBC-4053	21 / 533	1250 / 1700	540 / 245	1100 / 275	75 / 420	22.05/560	8.75/305	29.53/750	1.0/25	2.36/60	3.32/84	14.0/357	12.13/280
MBC-1924 / MBC-5061	24 / 610	2650 / 3600	810 / 367	2700 / 350	84 / 542	25.79/655	11.63/360	31.10/790	1.0/25	2.76/70	3.91/99	15.7/399	13.25/340
MBC-2329 / MBC-6373	29 / 737	6000 / 8100	1765 / 800	4600 / 450	122 / 787	30.51/775	13.50/450	36.22/920	1.38/35	3.15/80	4.77/121	18.8/478	15.88/420

Model	K	L	M	N	O	P
MBC-1317 / MBC-3143	11.50/292	5.75/220	4.50/40	11.02/280	13/16 / 18	0.75/19
MBC-1621 / MBC-4053	15.98/406	7.50/270	5.38/50	13.50/343	1-1/16 / 22	0.75/19
MBC-1924 / MBC-5061	17.72/450	9.25/325	6.5/65	15.79/401	1-1/16 / 22	1.00/25
MBC-2329 / MBC-6373	22.83/580	11.75/400	8.00/85	20.00/508	1-5/16 / 27	1.00/25

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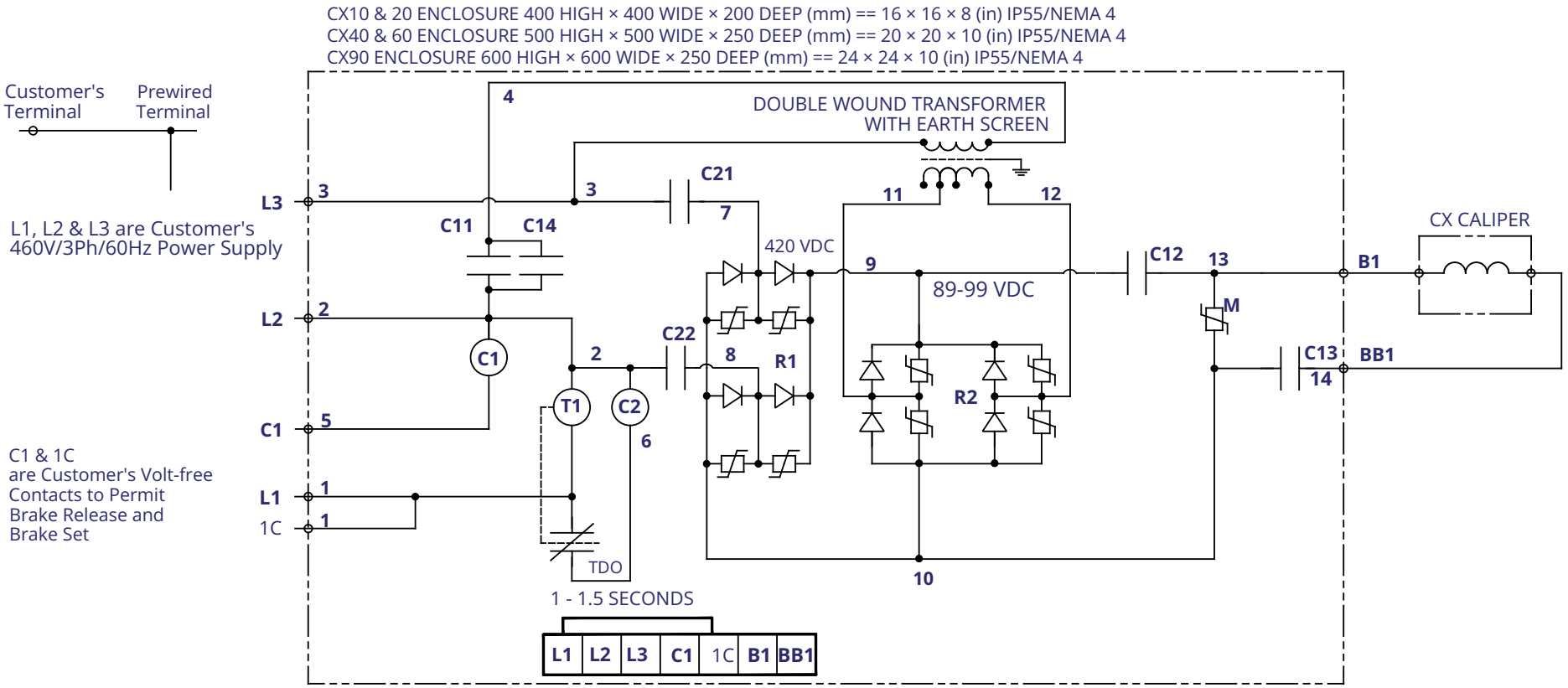
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CX Brake Controller / Rectifier

Single CX disc brake caliper

DRAWING
1CXECP-01.0



SINGLE CALIPER VOLTAGE/AMPERAGE RATINGS

			CX10 CALIPER		CX20 CALIPER		CX40 CALIPER		CX60 CALIPER		CX90 CALIPER	
			RELEASE	HOLD-OFF	RELEASE	HOLD-OFF	RELEASE	HOLD-OFF	RELEASE	HOLD-OFF	RELEASE	HOLD-OFF
RMS	**I**	Line - Amps	**5.8**	**0.3**	**6.3**	**0.3**	**9.6**	**0.6**	**11**	**0.7**	**14**	**1.0**
DC	**I**	Load - Amps	**5.3**	**1.2**	**6.0**	**1.1**	**9.1**	**2.1**	**10**	**2.3**	**13**	**3.1**
DC	**V**	Load - Volts	**420**	**89**	**420**	**92**	**420**	**96**	**420**	**99**	**420**	**94**

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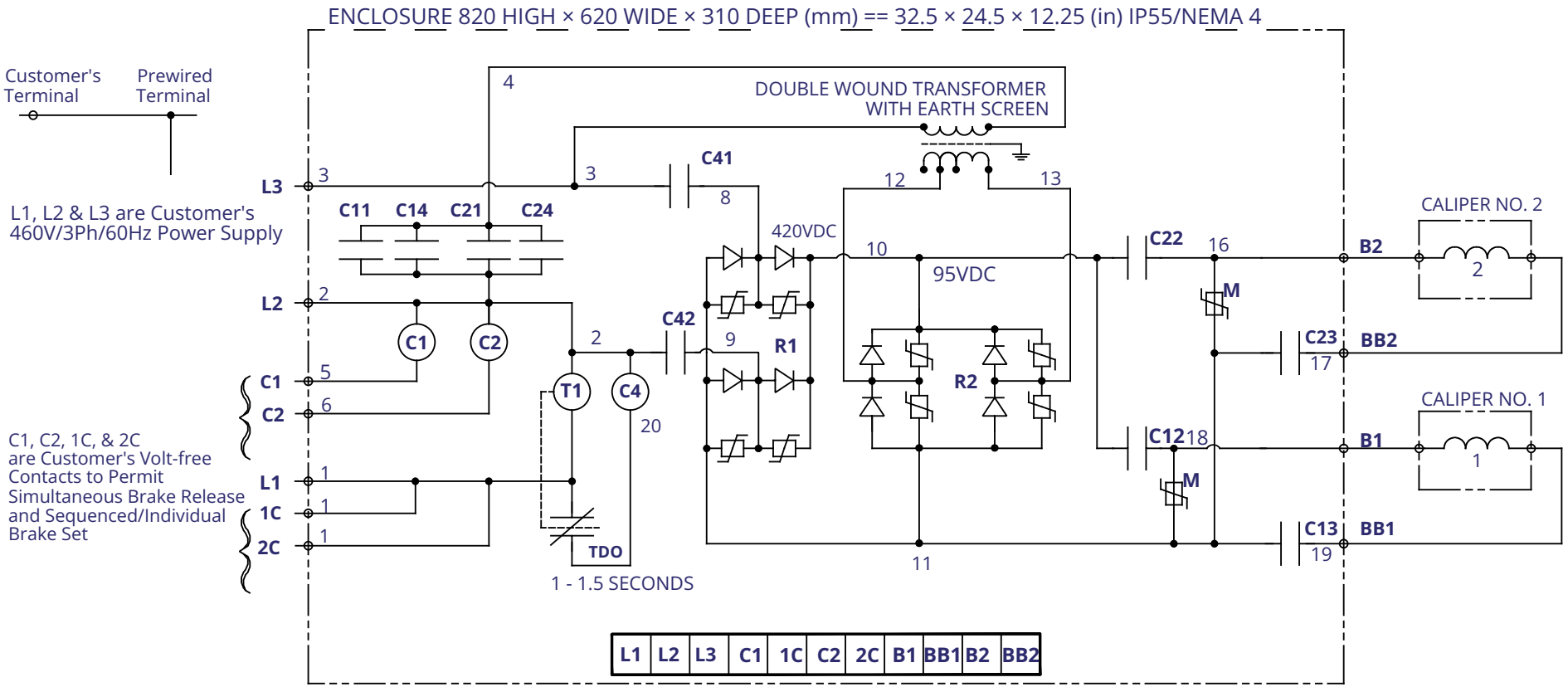
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CX Brake Controller / Rectifier

Two CX disc brake calipers

DRAWING
2CXECP-01.1



TWO-CALIPER VOLTAGE/AMPERAGE RATINGS

	CX10 CALIPERS		CX20 CALIPERS		CX40 CALIPERS		CX60 CALIPERS		CX90 CALIPERS	
	RELEASE	HOLD-OFF	RELEASE	HOLD-OFF	RELEASE	HOLD-OFF	RELEASE	HOLD-OFF	RELEASE	HOLD-OFF
RMS I Line - Amps	12	0.6	13	0.8	19.0	1.3	23.5	1.7	31	2.2
DC I Load - Amps	11	2.4	12.4	3.6	18.0	4.5	22.1	5.6	28.5	6.8
DC V Load - Volts	405	86	405	105	410	100	400	95	400	95

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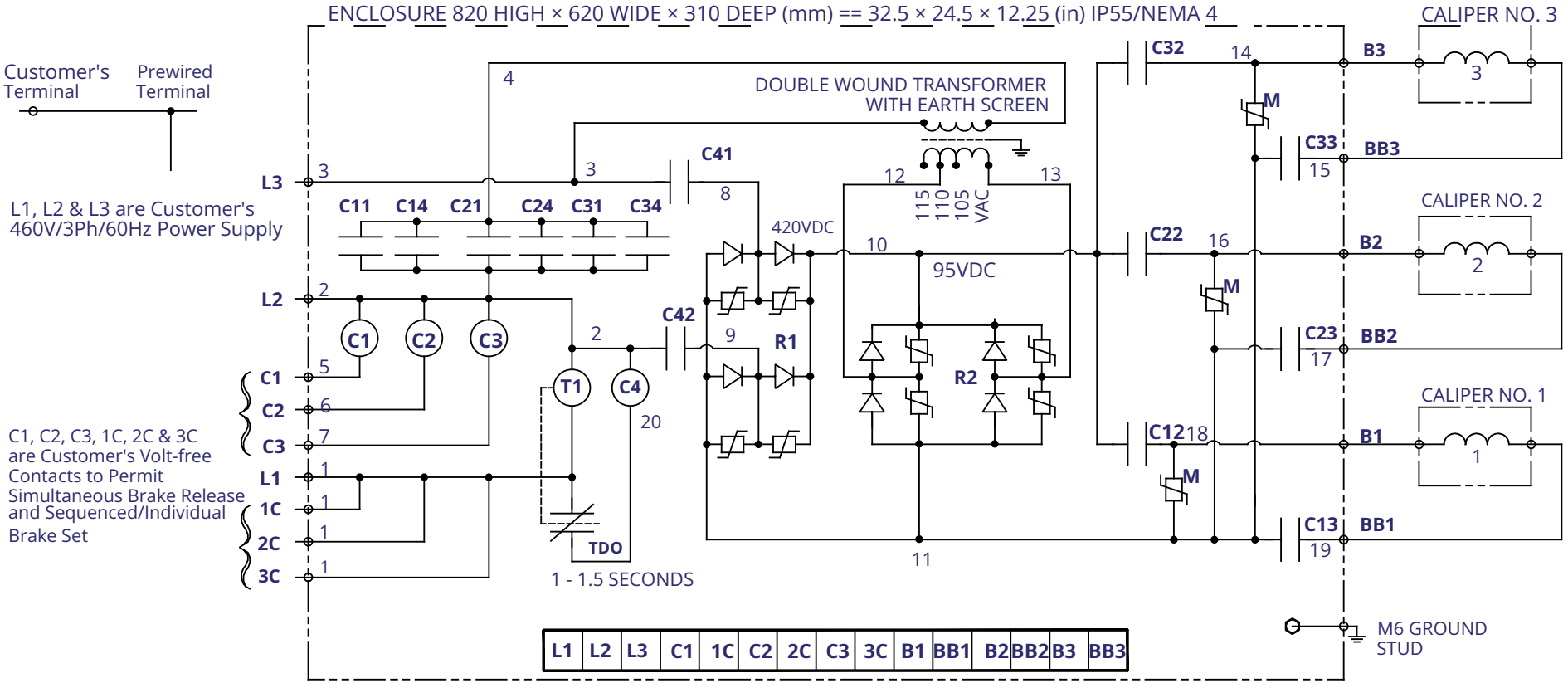
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CX Brake Controller / Rectifier

Three CX disc brake calipers

DRAWING
3CXECP-01.7



THREE-CALIPER VOLTAGE/AMPERAGE RATINGS

	CX10 CALIPERS		CX20 CALIPERS		CX40 CALIPERS		CX60 CALIPERS		CX90 CALIPERS		CX135 CALIPERS	
	RELEASE	HOLD-OFF	RELEASE	HOLD-OFF	RELEASE	HOLD-OFF	RELEASE	HOLD-OFF	RELEASE	HOLD-OFF	RELEASE	HOLD-OFF
RMS I Line - Amps	18	0.9	20	1.8	30	1.9	35	2.5	45	3.3	46	3.4
DC I Load - Amps	17	3.6	19	5.4	27	6.8	33	8.4	43	10	44	10.5
DC V Load - Volts	405	86	405	105	410	100	400	95	400	95	400	90

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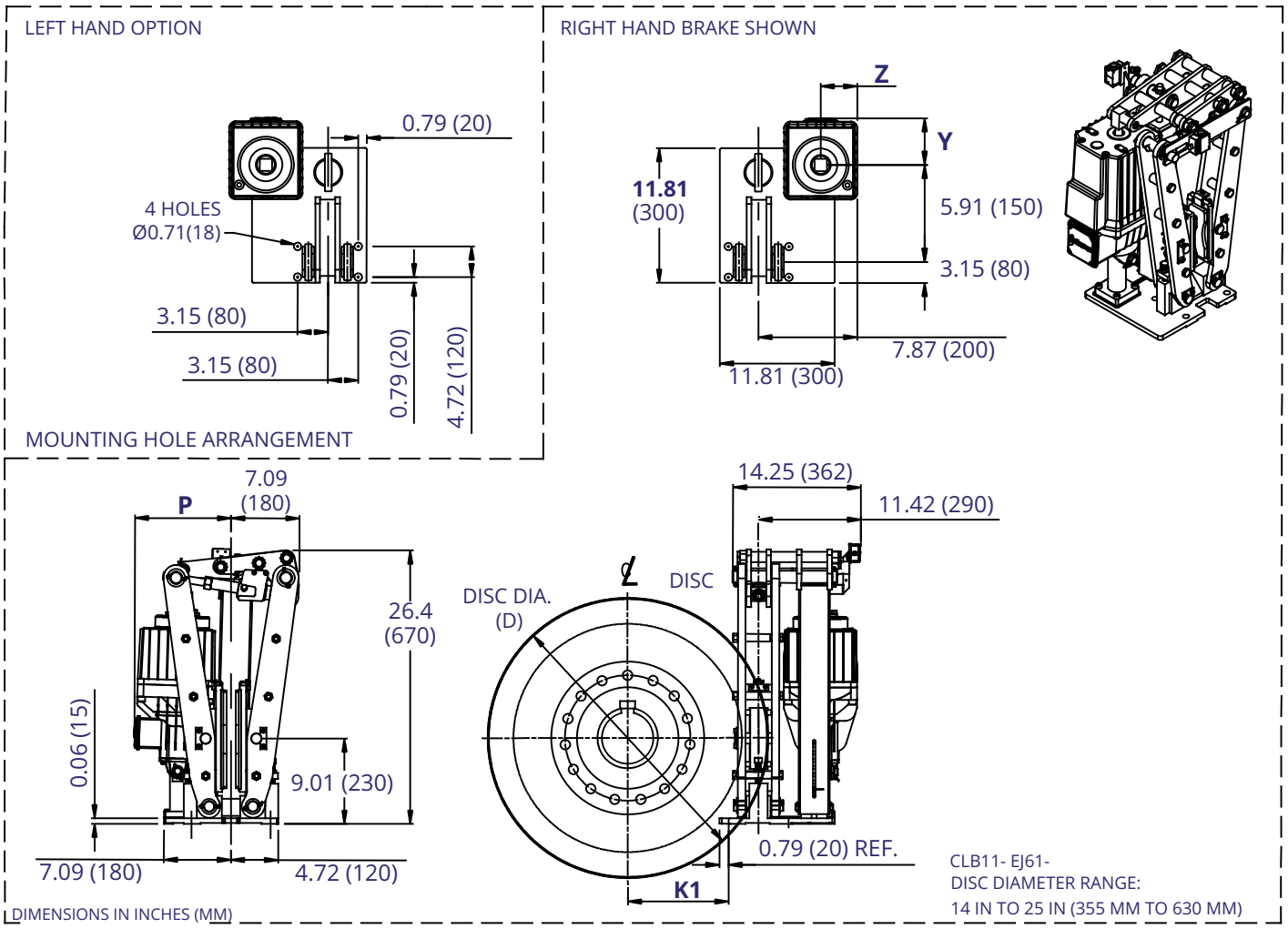
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CLB11 EJ Series Thruster Disc Brakes

DRAWING
CLB11-01.1



Specifications

Dual in/mm, lb/N, lb/kg, lb-ft/Nm

- K1 REPRESENTS DISTANCE FROM CENTER OF DISC TO CENTER OF FIRST MOUNTING HOLE
- Spring-applied & thruster released
- Right hand brake shown; left hand option available
- Always check available space when replacing existing brakes
- CLB11-EJ61 disc diameter range: 14 in to 25 in (355 mm to 630 mm)
- Torque columns are @ disc dia. 14/355, 16/400, 20/500 and 25/630 in/mm
- 4 mounting holes Ø0.71 in (18 mm)
- Dynamic torque = AF × 0.50 × (D−3.15)/24 lb-ft | Nm: AF × 0.50 × (D−80)/2000
- Static torque = AF × 0.40 × (D−3.15)/24 lb-ft | Nm: AF × 0.40 × (D−80)/2000
- K1 (in) = (D/2) − 3.94; K1 (mm) = (D/2) − 100

CLB — thruster size	Max static brake torque lb-ft/Nm @ disc dia (1st)	(2nd)	(3rd)	(4th)	Applied force lb/N	Weight lb/kg	Brake force lb/N	Thruster power HP/kW	P in/mm	Y in/mm	Z in/mm
EJ61-023/5	271 / 367	321 / 427	421 / 560	546 / 733	1499 / 6667	169 / 77	600 / 2667	0.21 / 0.16	9.84 / 250	4.72 / 120	3.15 / 80
EJ61-030/5	368 / 498	436 / 579	571 / 760	741 / 995	2034 / 9048	169 / 77	814 / 3619	0.27 / 0.20	9.84 / 250	4.61 / 117	3.15 / 80
EJ61-050/6	581 / 786	688 / 914	902 / 1200	1170 / 1571	3212 / 14286	169 / 77	1285 / 5714	0.28 / 0.21	10.43 / 265	6.18 / 157	3.86 / 98
EJ61-080/6	871 / 1179	1032 / 1371	1353 / 1800	1754 / 2357	4818 / 21429	169 / 77	1927 / 8571	0.43 / 0.32	10.43 / 265	6.18 / 157	3.86 / 98

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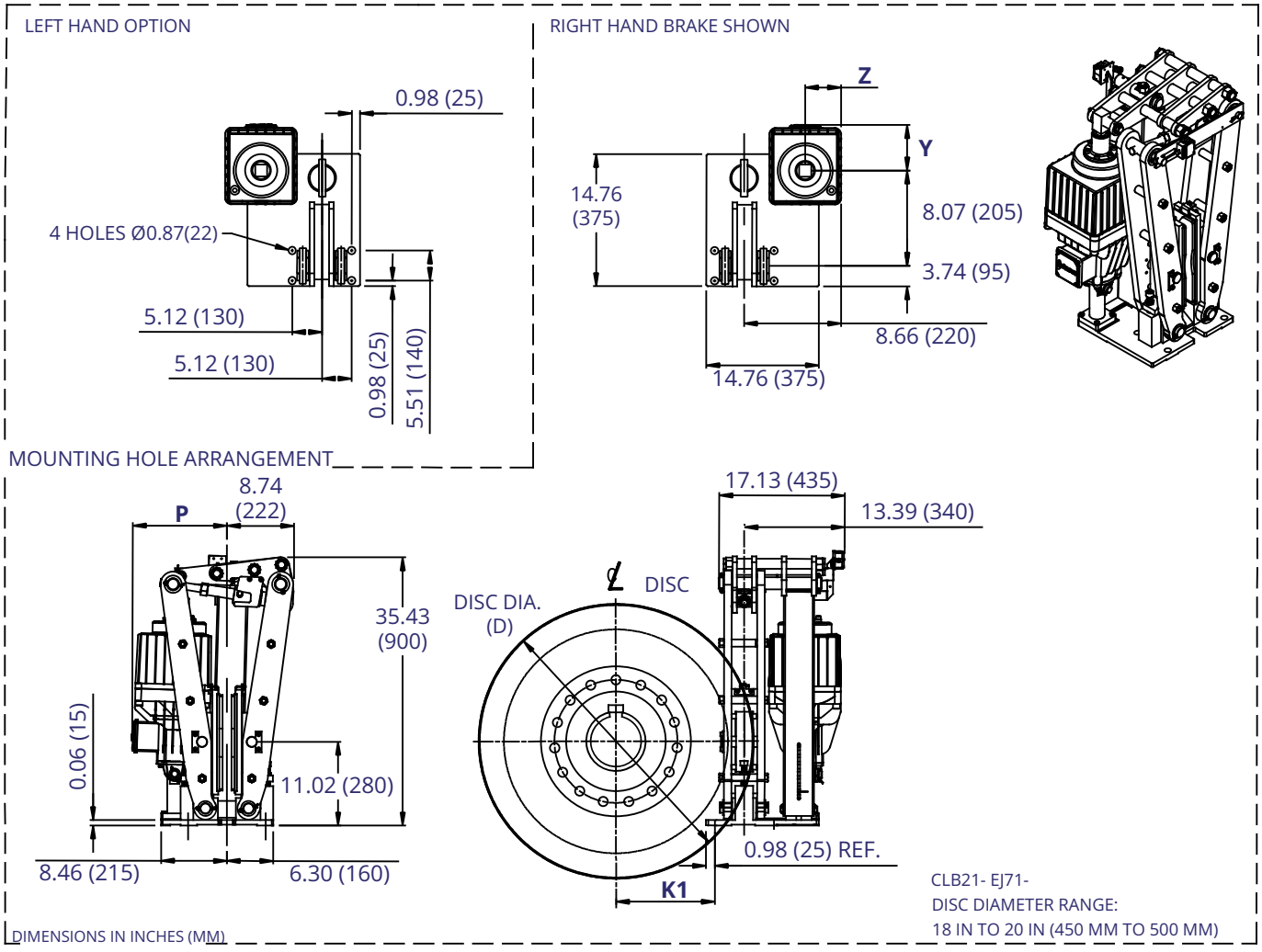
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CLB21 EJ Series Thruster Disc Brakes

DRAWING
CLB21-02.1



Specifications

Dual in/mm, lb/N, lb/kg, lb-ft/Nm

- K1 REPRESENTS DISTANCE FROM CENTER OF DISC TO CENTER OF FIRST MOUNTING HOLE
- Spring-applied & thruster released
- Right hand brake shown; left hand option available
- Always check available space when replacing existing brakes
- CLB21-EJ71 disc diameter range: 18 in to 20 in (450 mm to 500 mm)
- Torque columns are @ disc dia. 18/450 and 20/500 in/mm
- 4 mounting holes Ø0.87 in (22 mm)
- Dynamic torque = AF × 0.50 × (D−3.94)/24 lb-ft | Nm: AF × 0.50 × (D−100)/2000
- Static torque = AF × 0.40 × (D−3.94)/24 lb-ft | Nm: AF × 0.40 × (D−100)/2000
- K1 (in) = (D/2) − 4.72; K1 (mm) = (D/2) − 120

CLB21 — thruster size	Max static brake torque lb-ft/Nm @18in/450	@20/500	Applied force lb/N	Weight lb/kg	Brake force lb/N	Thruster power HP/kW	P in/mm	Y in/mm	Z in/mm
EJ71-050/6	878 / 1167	1003 / 1333	3747 / 16667	385 / 175	1499 / 6667	0.28 / 0.21	11.93 / 303	6.18 / 157	3.86 / 98
EJ71-080/6	1317 / 1750	1504 / 2000	5621 / 25000	385 / 175	2248 / 10000	0.43 / 0.32	11.93 / 303	6.18 / 157	3.86 / 98
EJ71-121/6	2258 / 3000	2579 / 3429	9635 / 42857	385 / 175	3854 / 17143	0.43 / 0.32	12.80 / 325	5.83 / 148	4.72 / 120
EJ71-201/6	3136 / 4167	3582 / 4762	13382 / 59524	385 / 175	5353 / 23810	0.60 / 0.45	12.80 / 325	5.83 / 148	4.72 / 120
EJ71-301/6	4516 / 6000	5158 / 6857	19270 / 85714	385 / 175	7708 / 34286	0.75 / 0.56	12.80 / 325	5.83 / 148	4.72 / 120

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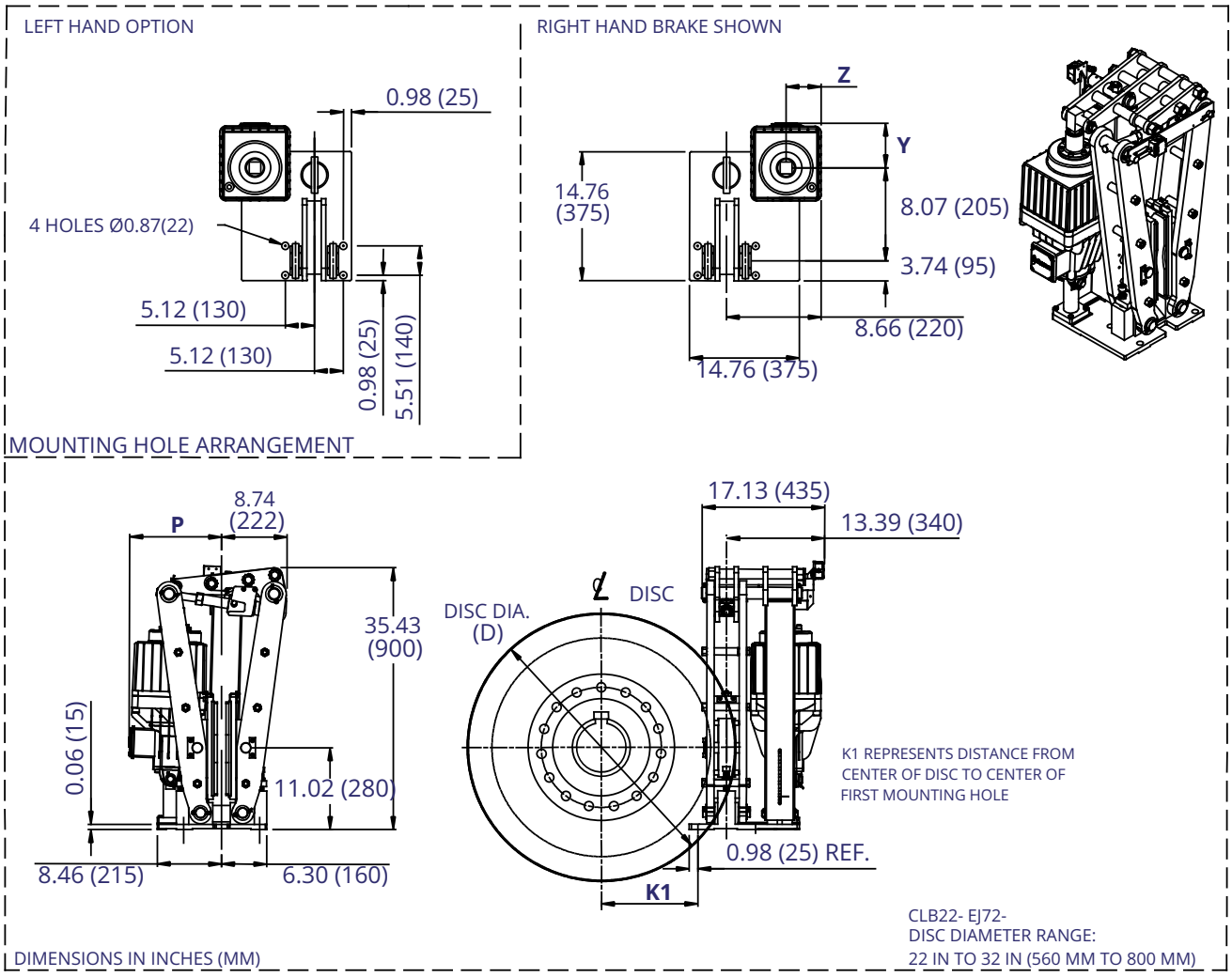
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CLB22 EJ Series Thruster Disc Brakes

DRAWING
CLB22-03.1



Specifications

Dual in/mm, lb/N, lb/kg, lb-ft/Nm

- Spring-applied & thruster released
- Right hand brake shown; left hand option available
- K1 represents the distance from centre of disc to centre of first mounting hole
- Always check available space when replacing existing brakes
- CLB22-EJ72 disc diameter range: 22 in to 32 in (560 mm to 800 mm)
- 4 mounting holes Ø0.87 in (22 mm)
- Dynamic torque = AF × 0.50 × (D−3.94)/24 lb-ft | Nm: AF × 0.50 × (D−100)/2000
- Static torque = AF × 0.40 × (D−3.94)/24 lb-ft | Nm: AF × 0.40 × (D−100)/2000
- K1 (in) = (D/2) − 4.72; K1 (mm) = (D/2) − 120

CLB22 — thruster size	Max static brake torque lb-ft/Nm @22in/560	@28/711	@32/800	Applied force lb/N	Weight lb/kg	Brake force lb/N	Thruster power HP/kW	P in/mm	Y in/mm	Z in/mm
EJ72-080/6	1692 / 2300	2254 / 3055	2629 / 3500	5621 / 25000	385 / 175	2248 / 10000	0.43 / 0.32	11.93 / 303	6.18 / 157	3.86 / 98
EJ72-121/6	2900 / 3943	3864 / 5237	4506 / 6000	9635 / 42857	385 / 175	3854 / 17143	0.43 / 0.32	12.80 / 325	5.83 / 148	4.72 / 120
EJ72-201/6	4028 / 5476	5366 / 7274	6258 / 8333	13382 / 59524	385 / 175	5353 / 23810	0.60 / 0.45	12.80 / 325	5.83 / 148	4.72 / 120
EJ72-301/6	5800 / 7886	7727 / 10474	9012 / 12000	19270 / 85714	385 / 175	7708 / 34286	0.75 / 0.56	12.80 / 325	5.83 / 148	4.72 / 120

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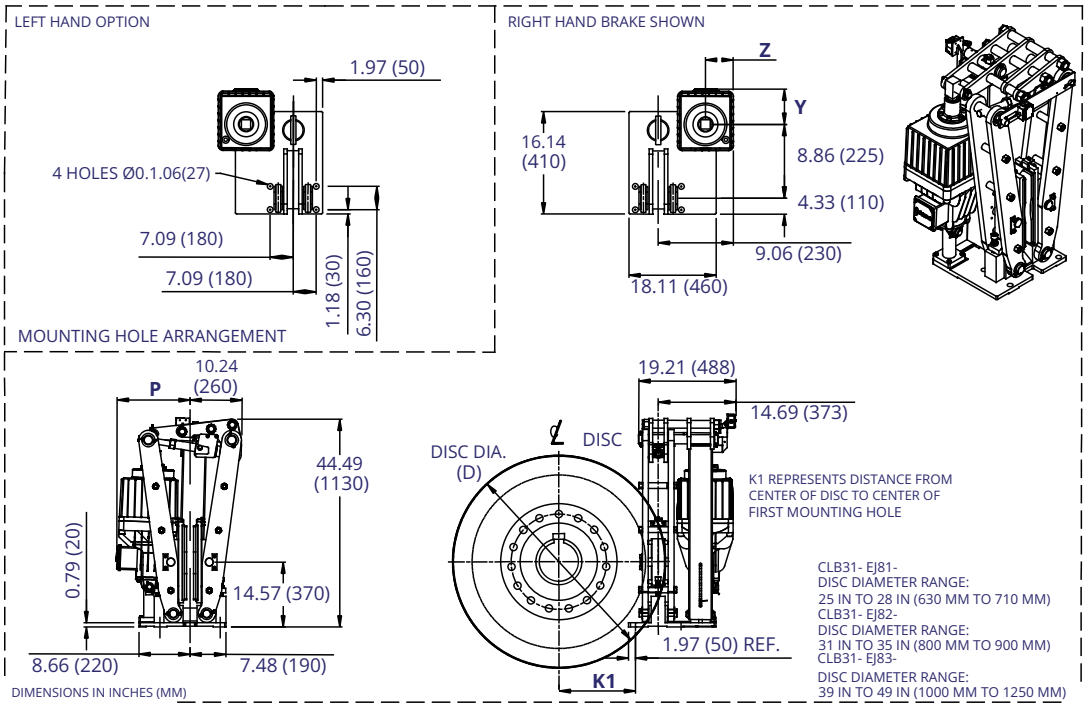
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CLB31 EJ Series Thruster Disc Brakes

DRAWING
CLB31-04.0



Specifications

Dual in/mm, lb/N, lb/kg, lb-ft/Nm

- Spring-applied & thruster released
- Right hand brake shown; left hand option available
- K1 represents the distance from centre of disc to centre of first mounting hole
- Always check available space when replacing existing brakes
- CLB31-EJ81 disc diameter range: 25 in to 28 in (630 mm to 710 mm)
- CLB31-EJ82 disc diameter range: 31 in to 35 in (800 mm to 900 mm)
- CLB31-EJ83 disc diameter range: 39 in to 49 in (1000 mm to 1250 mm)
- 4 mounting holes Ø1.06 in (27 mm)
- Dynamic torque = AF × 0.50 × (D−2.56)/24 lb-ft | Nm: AF × 0.50 × (D−65)/2000
- Static torque = AF × 0.40 × (D−2.56)/24 lb-ft | Nm: AF × 0.40 × (D−65)/2000
- K1 (in) = (D/2) − 5.71; K1 (mm) = (D/2) − 145
- Torque columns vary by thruster group — see the disc-diameter heading against each block

CLB31 — thruster size	Disc dia. group	Max static brake torque lb-ft/Nm (1st dia.)	(2nd)	(3rd)	(4th)	Applied force lb/N	Weight lb/kg	Brake force lb/N	Thruster power HP/kW	P in/mm
EJ81-201/6	25/630, 28/710	5005 / 6726	5674 / 7679	—	—	13382 / 59524	660 / 300	5353 / 23810	0.60 / 0.45	13.27 / 337
EJ81-301/6	25/630, 28/710	7607 / 10224	8625 / 11671	—	—	20341 / 90476	660 / 300	8136 / 36190	0.75 / 0.56	13.27 / 337
EJ82-201/6	31/800, 32/813, 35/900	6343 / 8750	6566 / 8905	7235 / 9940	—	13382 / 59524	660 / 300	5353 / 23810	0.60 / 0.45	13.27 / 337
EJ82-301/6	31/800, 32/813, 35/900	9642 / 13300	9981 / 13535	10998 / 15110	—	20341 / 90476	660 / 300	8136 / 36190	0.75 / 0.56	13.27 / 337
EJ83-201/6	39/1000, 40/1016, 42/1067, 49/1250	8127 / 11131	8350 / 11321	8797 / 11929	10358 / 14107	13382 / 59524	660 / 300	5353 / 23810	0.60 / 0.45	13.27 / 337
EJ83-301/6	39/1000, 40/1016, 42/1067, 49/1250	12354 / 16919	12693 / 17209	13371 / 18131	15744 / 21443	20341 / 90476	660 / 300	8136 / 36190	0.75 / 0.56	13.27 / 337

CLB31 — thruster size	Y in/mm	Z in/mm
EJ81-201/6	5.83 / 148	4.72 / 120
EJ81-301/6	5.83 / 148	4.72 / 120
EJ82-201/6	5.83 / 148	4.72 / 120
EJ82-301/6	5.83 / 148	4.72 / 120
EJ83-201/6	5.83 / 148	4.72 / 120
EJ83-301/6	5.83 / 148	4.72 / 120

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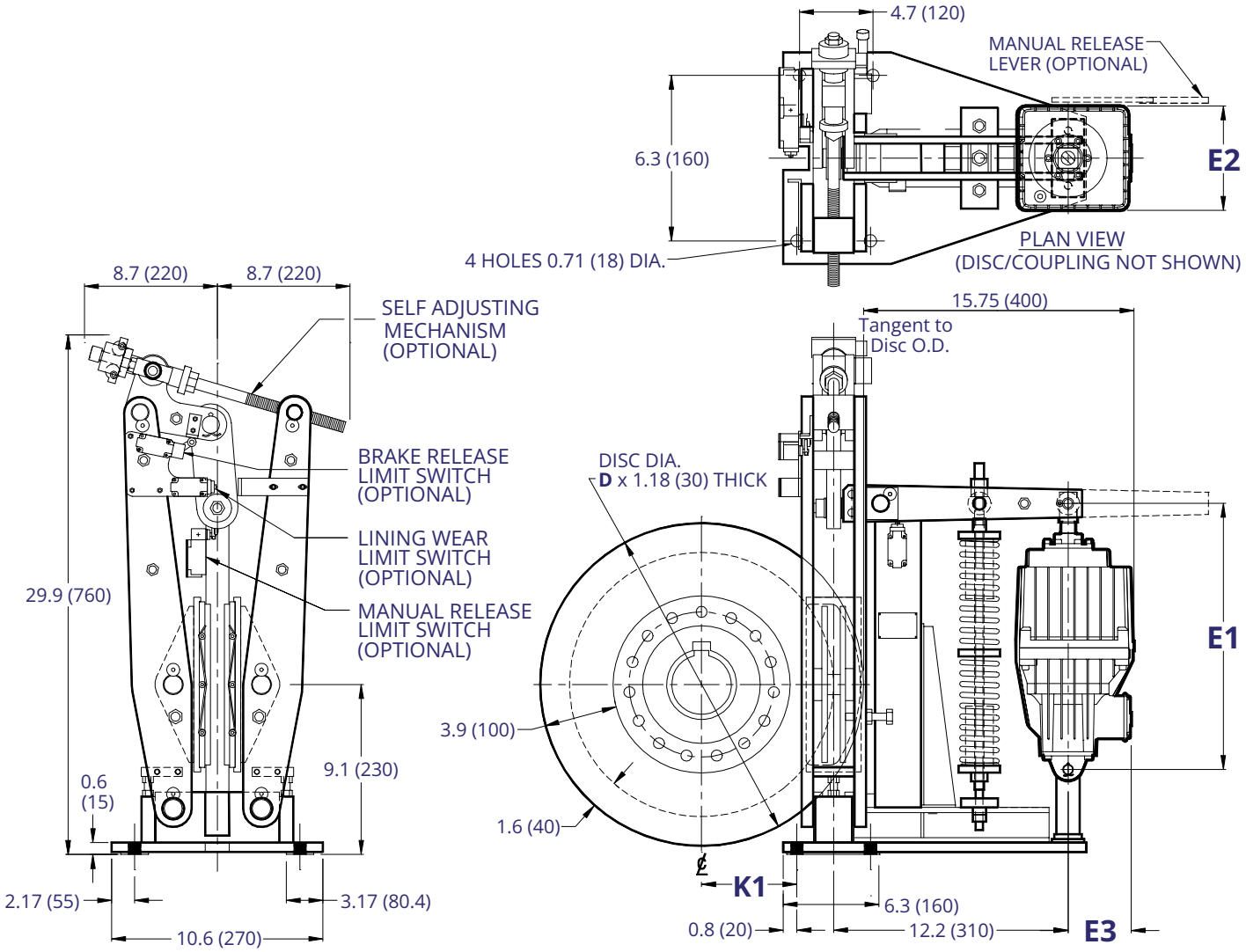
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CL10 EJ Series Thruster Disc Brakes

DRAWING
CLJ-01.1



Specifications

Dual in/mm, lb/N, lb/kg, lb-ft/Nm, lb/kN

- Spring-applied & thruster released
- Optional: self adjusting mechanism, brake release limit switch, lining wear limit switch, manual release limit switch, manual release lever
- Always check available space when replacing existing brakes
- Disc dia. D × 1.18 in (30 mm) thick
- 4 mounting holes 0.71 in (18 mm) dia.
- Dynamic torque = AF × 0.50 × (D−3.2)/24 lb-ft | Nm: AF × 0.50 × (D−80)/2000
- Static torque = AF × 0.40 × (D−3.2)/24 lb-ft | Nm: AF × 0.40 × (D−80)/2000
- K1 (in) = (D/2) − 3.94; K1 (mm) = (D/2) − 100

CL10 — thruster size	Max static brake torque lb-ft/Nm @12in/315	@16/400	@20/500	@25/630	Applied force lb/N	Weight lb/kg	Brake force lb/kN	Shaft reaction lb/kg	Thruster power HP/kW	E1 in/mm	E2 in/mm	E3 in/mm
EJ023/5	164 / 234	238 / 318	314 / 418	407 / 548	1120 / 4980	209 / 95	448 / 1.9	430 / 195	0.21 / 0.16	11.3 / 286	6.3 / 160	4.7 / 118
EJ030/5	260 / 372	365 / 497	498 / 665	647 / 870	1780 / 7910	218 / 99	710 / 3.56	765 / 347	0.27 / 0.20	14.6 / 370	6.3 / 160	4.7 / 118
EJ050/6	412 / 587	598 / 800	784 / 1050	1020 / 1375	2806 / 12483	218 / 99	1120 / 4.4	1210 / 550	0.28 / 0.21	17.2 / 435	7.5 / 190	5.75 / 146
EJ080/6	— / —	1025 / 1370	1345 / 1800	1750 / 2350	4808 / 21386	232 / 105	1920 / 8.5	2050 / 930	0.43 / 0.32	17.7 / 450	7.5 / 190	5.75 / 146

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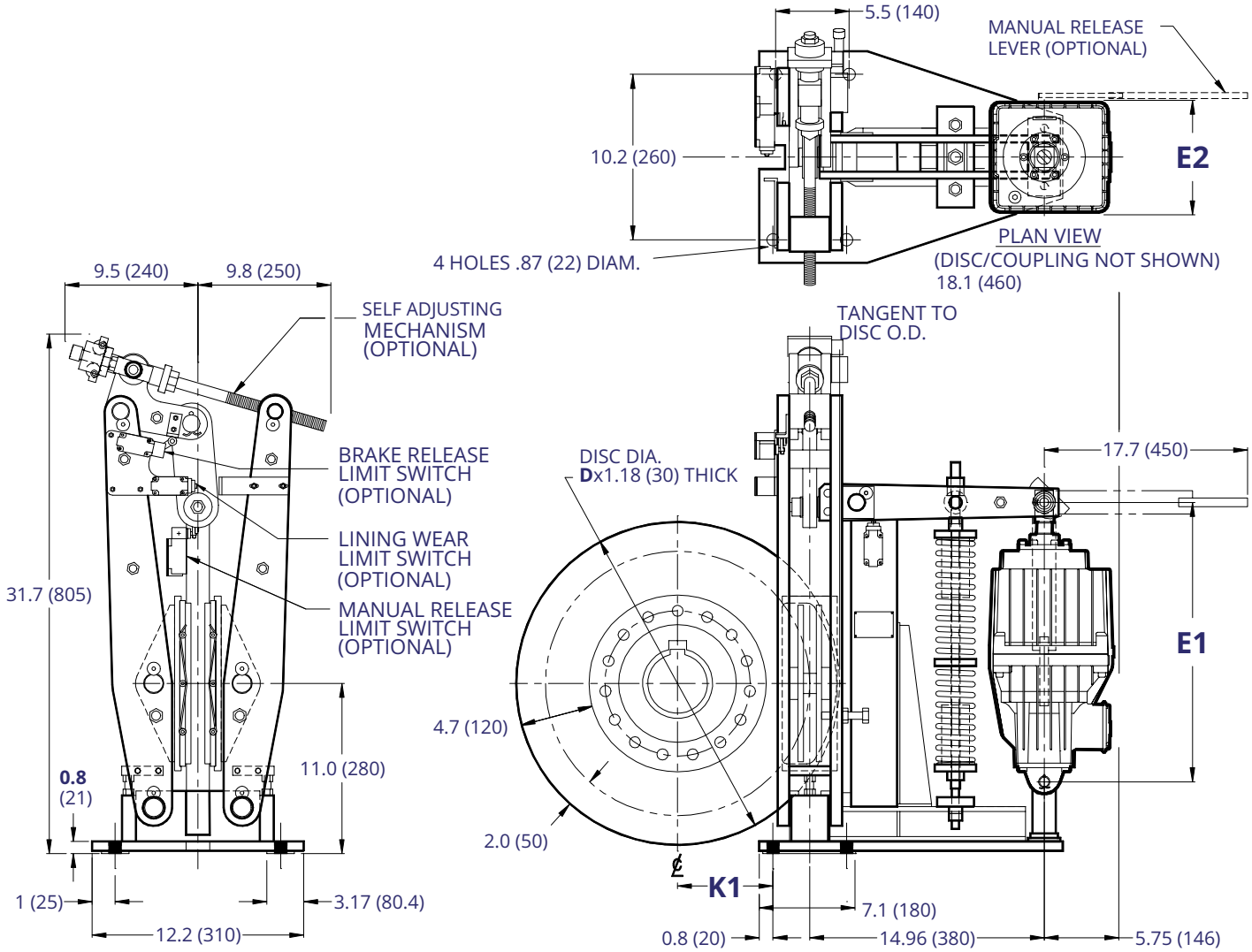
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CL20 EJ Series Thruster Disc Brakes

DRAWING
CLJ-02.1



Specifications

Dual in/mm, lb/N, lb/kg, lb-ft/Nm, lb/kN

- Spring-applied & thruster released
- Optional: self adjusting mechanism, brake release limit switch, lining wear limit switch, manual release limit switch, manual release lever
- Always check available space when replacing existing brakes
- Disc dia. D × 1.18 in (30 mm) thick
- 4 mounting holes 0.87 in (22 mm) dia.
- Dynamic torque = AF × 0.50 × (D−4)/24 lb-ft | Nm: AF × 0.50 × (D−100)/2000
- Static torque = AF × 0.40 × (D−4)/24 lb-ft | Nm: AF × 0.40 × (D−100)/2000
- K1 (in) = (D/2) − 4.72; K1 (mm) = (D/2) − 120

CL20 — thruster size	Max static brake torque lb-ft/Nm @16in/400	@20/500	@25/630	@28/710	Applied force lb/N	Weight lb/kg	Brake force lb/kN	Shaft reaction lb/kg	Thruster power HP/kW	E1 in/mm	E2 in/mm
EJ050/6	660 / 882	880 / 1175	— / —	— / —	3300 / 14690	346 / 157	1320 / 5.9	1210 / 550	0.28 / 0.21	17.1 / 435	7.5 / 190
EJ080/6	1055 / 1410	1410 / 1880	1850 / 2490	2115 / 2870	5287 / 23519	359 / 163	2110 / 9.4	2050 / 930	0.43 / 0.32	17.7 / 450	7.5 / 190
EJ121/6	1440 / 1950	1920 / 2600	2540 / 3440	2925 / 3965	7310 / 32500	359 / 163	2920 / 13.0	2865 / 1300	0.43 / 0.32	25.4 / 645	9.4 / 240
EJ201/6	2360 / 3210	3166 / 4290	4200 / 5690	4825 / 6540	12055 / 53600	359 / 163	4810 / 21.4	4815 / 2185	0.60 / 0.45	25.4 / 645	9.4 / 240

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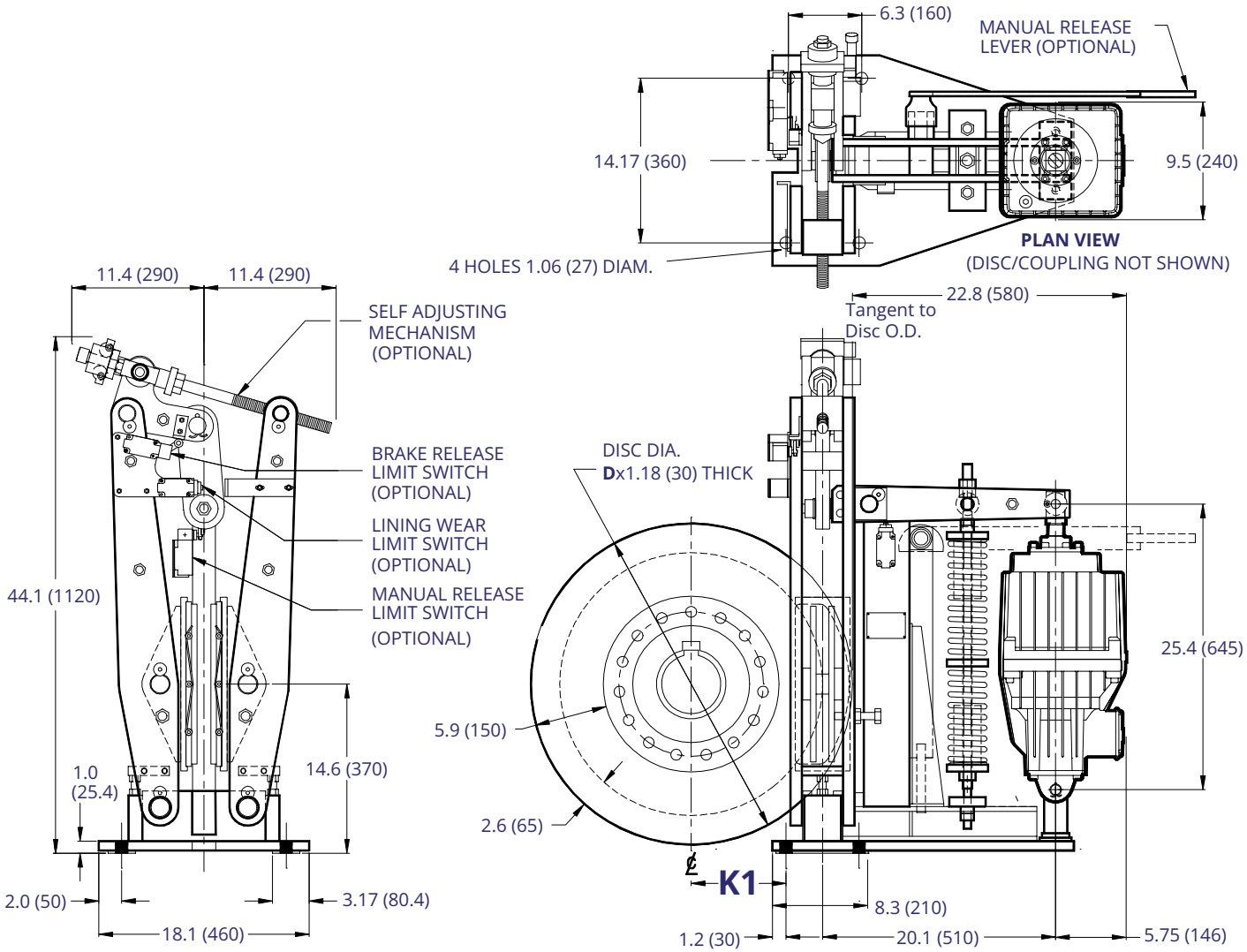
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CL30 EJ Series Thruster Disc Brakes

DRAWING
CLJ-03.1



Specifications

Dual in/mm, lb/N, lb/kg, lb-ft/Nm, lb/kN

- Spring-applied & thruster released
- Optional: self adjusting mechanism, brake release limit switch, lining wear limit switch, manual release limit switch, manual release lever
- Always check available space when replacing existing brakes
- Disc dia. D × 1.18 in (30 mm) thick
- 4 mounting holes 1.06 in (27 mm) dia.
- Dynamic torque = AF × 0.50 × (D−5.2)/24 lb-ft | Nm: AF × 0.50 × (D−130)/2000
- Static torque = AF × 0.40 × (D−5.2)/24 lb-ft | Nm: AF × 0.40 × (D−130)/2000
- K1 (in) = (D/2) − 5.71; K1 (mm) = (D/2) − 145

CL30 — thruster size	Max static brake torque lb-ft/Nm @25in/630	@28/710	@32/800	@39/1000	@47/1200	Applied force lb/N	Weight lb/kg	Brake force lb/kN	Shaft reaction lb/kg	Thruster power HP/kW
EJ121/6	2470 / 3350	2880 / 3900	3315 / 4490	4300 / 5830	5290 / 7170	7535 / 33500	562 / 255	3015 / 13.4	3010 / 1365	0.43 / 0.32
EJ201/6	4185 / 5670	4850 / 6570	5600 / 7590	7275 / 9860	8950 / 12130	12750 / 56700	562 / 255	5105 / 22.7	5090 / 2310	0.60 / 0.45
EJ301/6	6530 / 8850	7570 / 10260	8750 / 11860	11365 / 15400	13950 / 18900	19905 / 88500	591 / 268	7960 / 35.4	7955 / 3610	0.75 / 0.56

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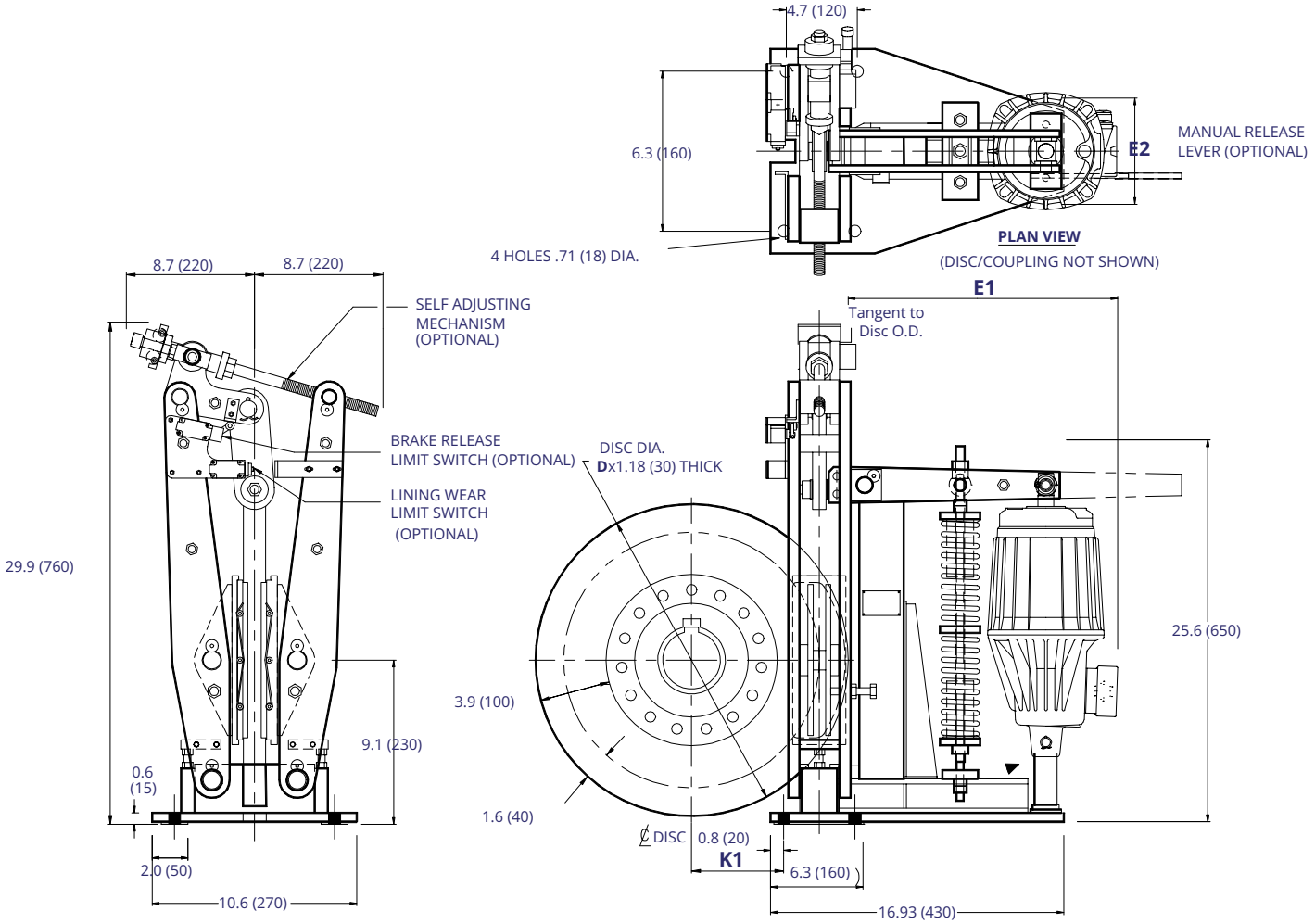
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CL10 Series Brake Calipers (Elhy EB thrusters)

DRAWING
CLB-01.1



Specifications

Dual in/mm, lb/N, lb/kg, lb-ft/Nm, lb/kN

- Spring-applied & thruster released
- Optional: self adjusting mechanism, brake release limit switch, lining wear limit switch, manual release lever
- Disc dia. D × 1.18 in (30 mm) thick
- Always check available space when replacing existing brakes
- 4 mounting holes 0.71 in (18 mm) dia.
- Dynamic torque = AF × 0.50 × (D−3.2)/24 lb-ft | Nm: AF × 0.50 × (D−80)/2000
- Static torque = AF × 0.40 × (D−3.2)/24 lb-ft | Nm: AF × 0.40 × (D−80)/2000
- K1 (in) = (D/2) − 3.94; K1 (mm) = (D/2) − 100

CL10 — thruster size	Max static brake torque lb-ft/Nm @12in/315	@16/400	@20/500	@25/630	Applied force lb/N	Weight lb/kg	Brake force lb/kN	Shaft reaction lb/kg	Thruster power HP/kW	E1 in/mm	E2 in/mm
EB220	164 / 222	238 / 322	314 / 425	407 / 550	1120 / 4980	209 / 95	448 / 1.9	430 / 195	0.21 / 0.16	16.75 / 425	6.4 / 162
EB300	260 / 352	365 / 495	498 / 675	647 / 870	1780 / 7910	209 / 95	710 / 3.56	765 / 347	0.19 / 0.14	15.5 / 395	5.9 / 150
EB50	412 / 558	598 / 810	784 / 1060	1020 / 1380	2806 / 12483	218 / 99	1120 / 4.4	1210 / 550	0.27 / 0.20	15.8 / 400	7.1 / 180
EB80	— / —	1025 / 1390	1345 / 1823	1750 / 2370	4808 / 21386	232 / 105	1920 / 8.5	2050 / 930	0.50 / 0.37	15.8 / 400	8.0 / 204

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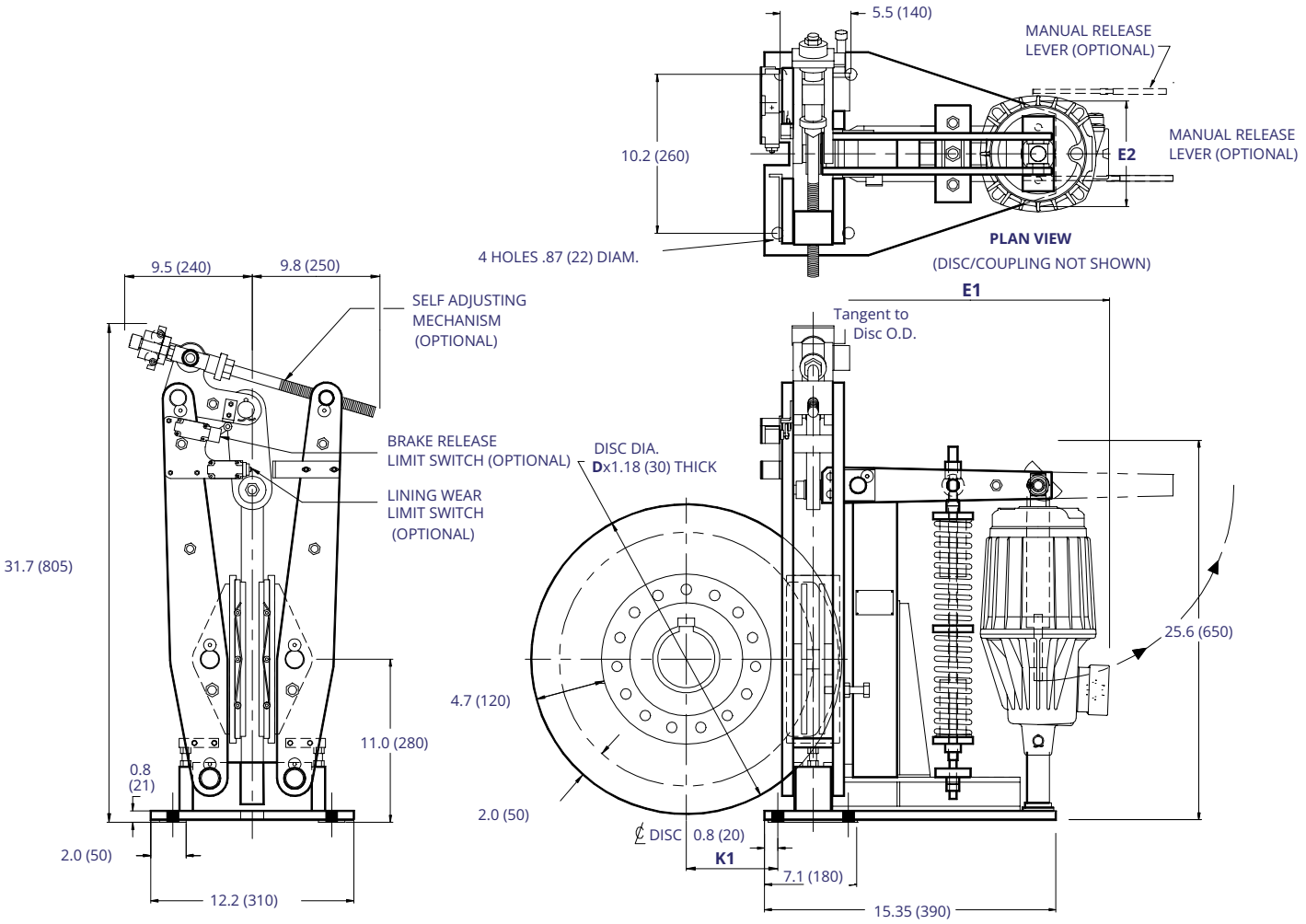
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CL20 Series Brake Calipers (Elhy EB thrusters)

DRAWING
CLB-02.3



Specifications

Dual in/mm, lb/N, lb/kg, lb-ft/Nm, lb/kN

- Spring-applied & thruster released
- Optional: self adjusting mechanism, brake release limit switch, lining wear limit switch, manual release lever
- Disc dia. D × 1.18 in (30 mm) thick
- Always check available space when replacing existing brakes
- 4 mounting holes 0.87 in (22 mm) dia.
- Dynamic torque = AF × 0.50 × (D−4)/24 lb-ft | Nm: AF × 0.50 × (D−100)/2000
- Static torque = AF × 0.40 × (D−4)/24 lb-ft | Nm: AF × 0.40 × (D−100)/2000
- K1 (in) = (D/2) − 4.72; K1 (mm) = (D/2) − 120

CL20 — thruster size	Max static brake torque lb-ft/Nm @16in/400	@20/500	@25/630	@28/710	Applied force lb/N	Weight lb/kg	Brake force lb/kN	Shaft reaction lb/kg	Thruster power HP/kW	E1 in/mm	E2 in/mm
EB50	660 / 895	880 / 1193	— / —	— / —	3300 / 14690	346 / 157	1320 / 5.9	1210 / 550	0.27 / 0.20	13.8 / 350	7.1 / 180
EB80	1055 / 1430	1410 / 1912	1850 / 2500	2115 / 2867	5287 / 23519	359 / 163	2110 / 9.4	2050 / 930	0.35 / 0.26	13.8 / 350	8.2 / 208
EB150	1710 / 2318	2280 / 3090	2990 / 4050	3420 / 4637	8545 / 38000	359 / 163	3420 / 15.2	3310 / 1500	0.54 / 0.40	13.8 / 350	8.2 / 208

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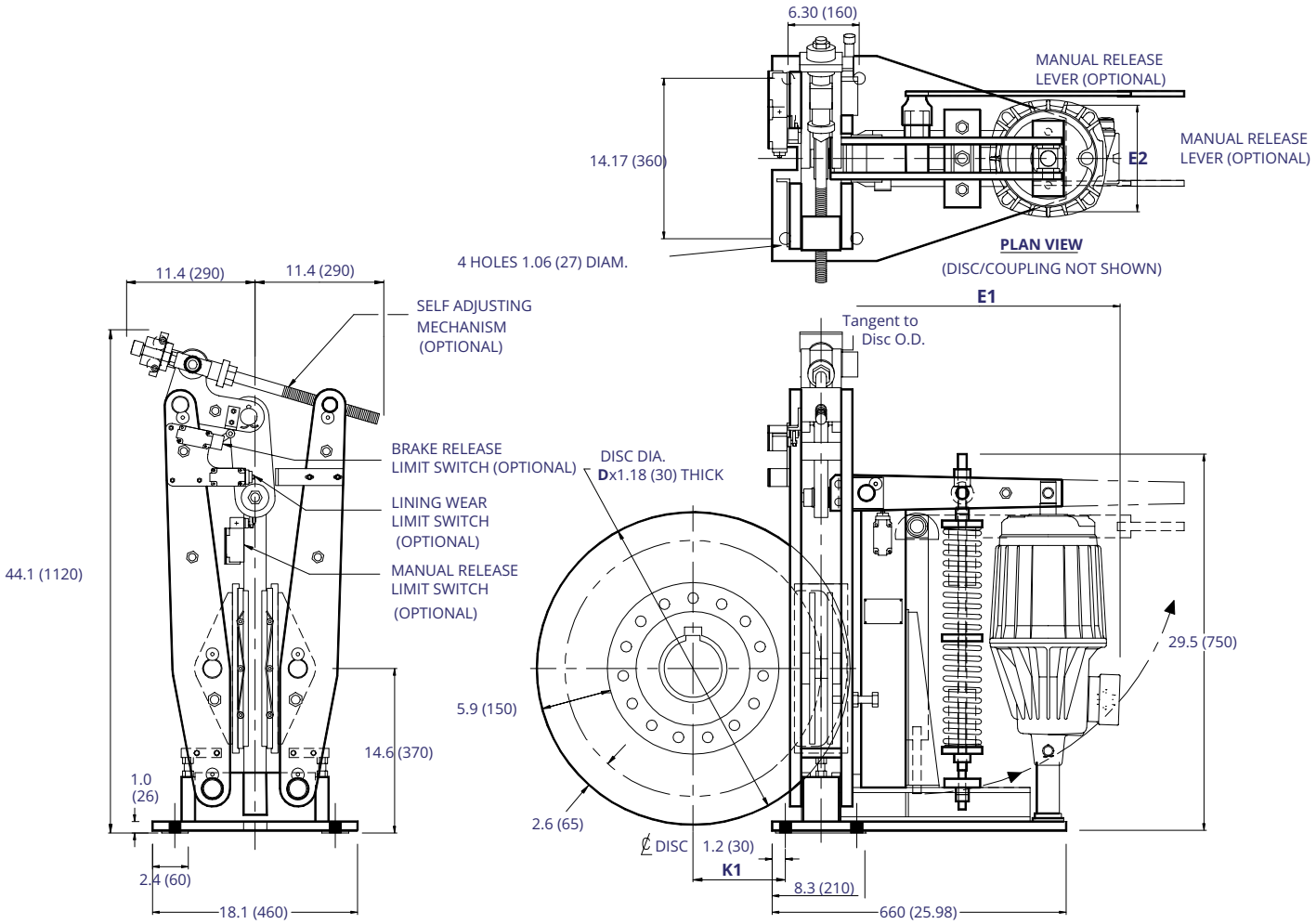
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CL30 Series Brake Calipers

DRAWING
CLB-03.5



Specifications

As printed on the drawing (dual imperial / metric where shown)

Thruster	Max static torque lb-ft/Nm @25in/630mm	@32/800	@39/1000	@47/1200	Applied force lb / N	Weight lb / kg	Brake force lb / kN	Shaft reaction lb / kg	Thruster HP / kW
EB150	2,890 / 3,900	3,915 / 5,300	—	—	8,766 / 38,990	562 / 255	3,510 / 15.6	3,310 / 1,500	0.54 / 0.40
EB250	4,660 / 6,300	6,300 / 8,540	8,060 / 10,925	9,830 / 13,330	14,110 / 62,780	591 / 268	5,640 / 25.1	5,180 / 2,350	0.56 / 0.42
EB320	7,060 / 9,570	9,550 / 12,950	12,050 / 16,340	14,900 / 20,200	21,390 / 95,160	606 / 275	8,550 / 38.1	7,830 / 3,550	0.80 / 0.60

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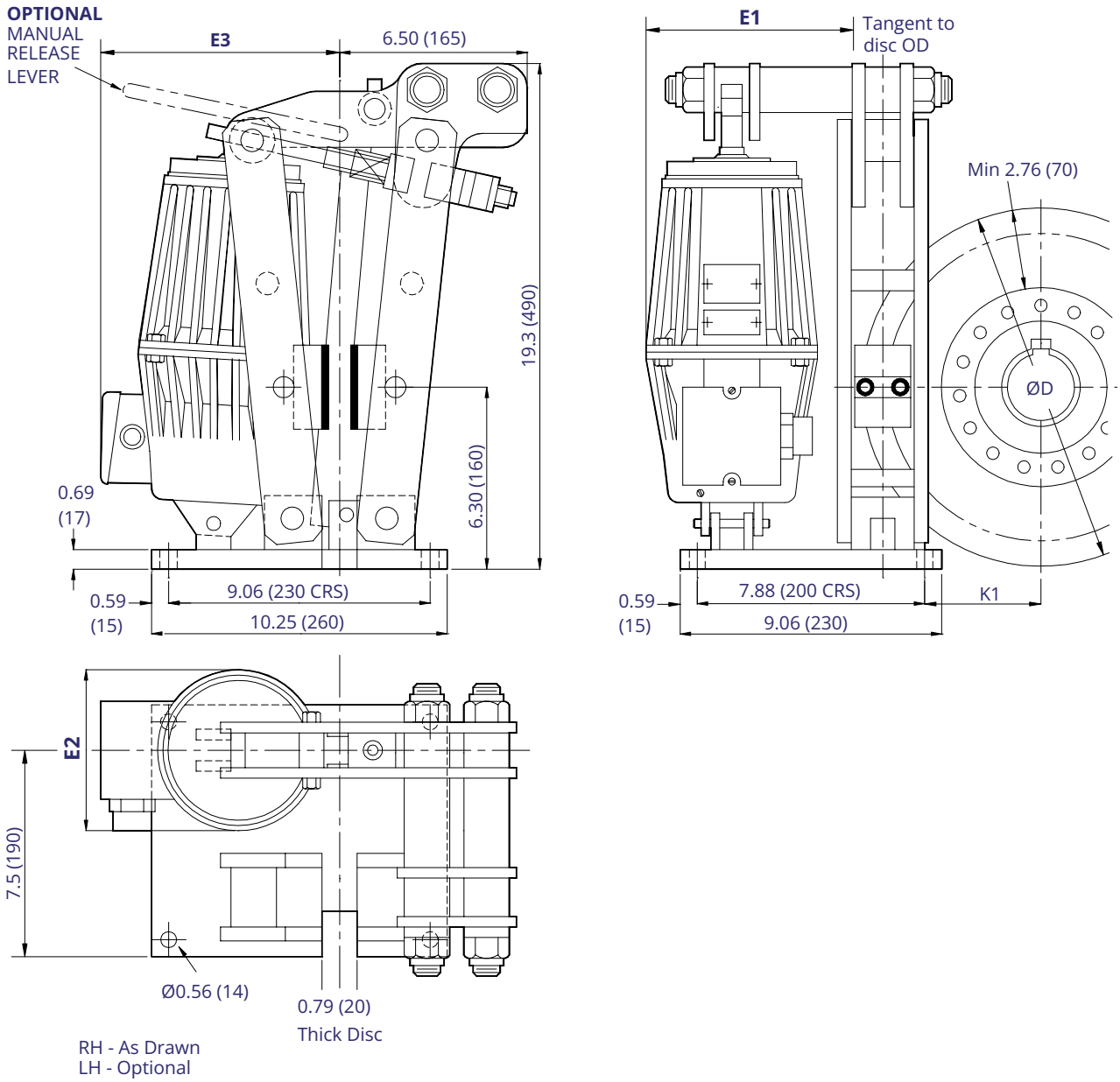
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CL11 Series Caliper Disc Brakes

DRAWING
CLB-04.1



Specifications

As printed on the drawing (dual imperial / metric where shown)

- K1=(D/2)-2.36" K1=(D/2)-60mm
- May be built opposite hand to list if specified.
- Always check available space when replacing existing brakes.

Thruster	Torque lb-ft/Nm @10in/250mm	@12/315	@16/400	@18/450	@20/500	Applied force lb / N	Nett weight lb / kg	Shaft reaction lb / kg	Thruster HP / kW
EB220	155 / 205	200 / 270	275 / 360	310 / 415	350 / 465	1,180 / 5,250	93.7 / 42.5	475 / 216	0.20 / 0.15
EB300	205 / 280	280 / 370	365 / 490	425 / 565	480 / 640	1,600 / 7,125	94.1 / 42.7	650 / 294	0.27 / 0.20

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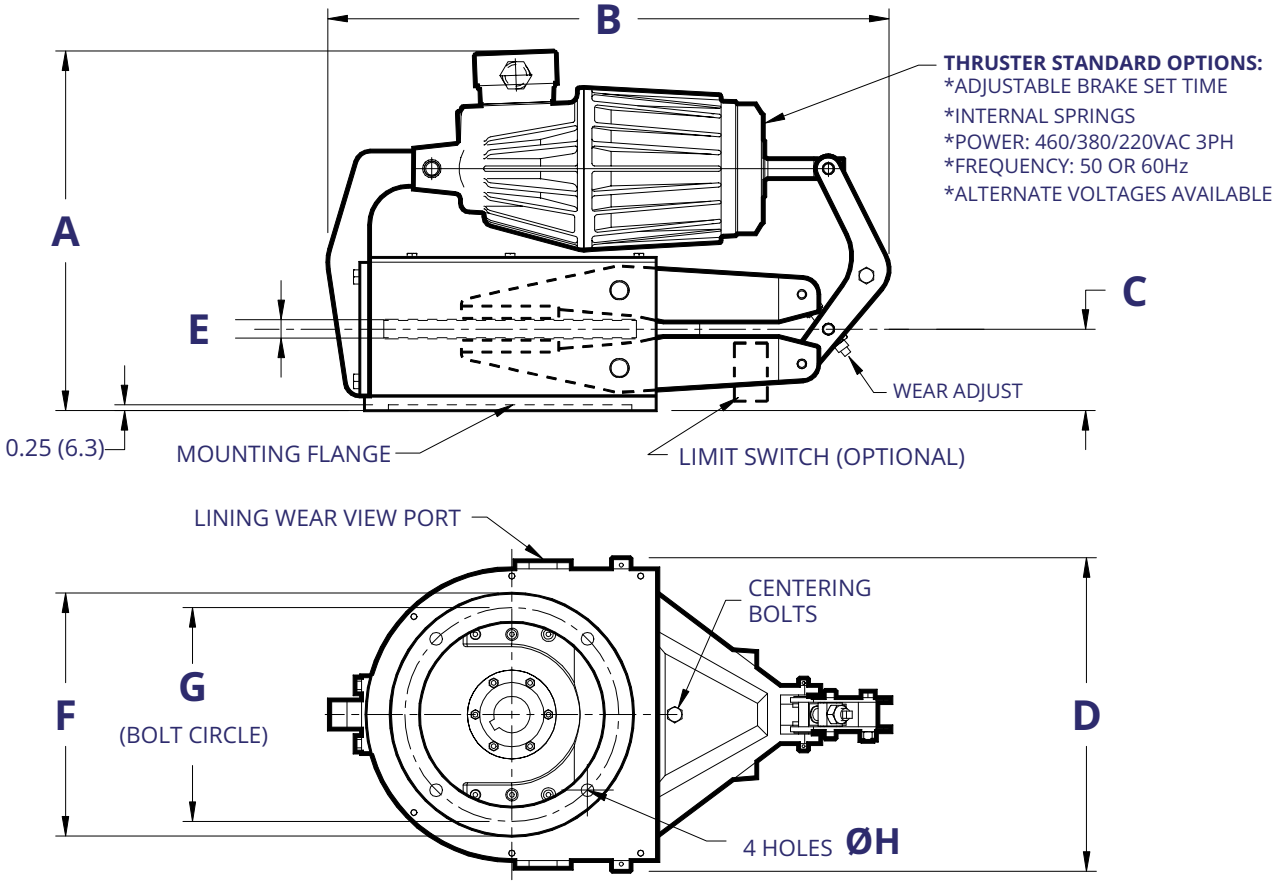
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MB Series Motor Mounted Thruster Disc Brake Calipers

DRAWING
MB813T-1.0



Specifications

Dual in/mm, lb/kg, lb-ft/NM

- Spring applied, electrically released
- Thruster standard options: adjustable brake set time, internal springs, power 460/380/220 VAC 3PH, frequency 50 or 60 Hz, alternate voltages available
- Mounting flange, wear adjust, lining wear view port, centering bolts; optional limit switch
- For MB08T-EB020C020, A = 14.5 in (370 mm)
- Maximum dynamic torque is based on minimum air gap, largest spring and friction coefficient of 0.43
- A full range of thruster and friction linings is available to suit particular torque requirements
- Cold static torque values must be down rated by at least 20 percent
- Custom motor mounting hardware available
- Disc may be solid or ventilated and shaft or coupling mount

Model	Weight lb/kg	A	B	C	D	E	F	G (bolt circle)	H	Disc Ø in/mm	Dynamic torque lb-ft	Dynamic torque NM
MB08T-EB012C012	111 / 50	15.7 / 400	20.4 / 519	3.0 / 76	10.8 / 273	0.75 / 19	8.5 / 216	7.25 / 184	0.53 / 13	8 / 203	32	43
MB08T-EB012C018	111 / 50	15.7 / 400	20.4 / 519	3.0 / 76	10.8 / 273	0.75 / 19	8.5 / 216	7.25 / 184	0.53 / 13	8 / 203	48	65
MB08T-EB020C020	111 / 50	15.7 / 400 (14.5 / 370)	20.4 / 519	3.0 / 76	10.8 / 273	0.75 / 19	8.5 / 216	7.25 / 184	0.53 / 13	8 / 203	57	77
MB10T-EB050C018	172 / 78	15.4 / 391	24.6 / 624	3.4 / 86	13.0 / 330	0.88 / 22	10.5 / 267	9.0 / 229	0.53 / 13	10 / 254	84	115
MB10T-EB050C032	172 / 78	15.4 / 391	24.6 / 624	3.4 / 86	13.0 / 330	0.88 / 22	10.5 / 267	9.0 / 229	0.53 / 13	10 / 254	174	236
MB10T-EB050C050	172 / 78	15.4 / 391	24.6 / 624	3.4 / 86	13.0 / 330	0.88 / 22	10.5 / 267	9.0 / 229	0.53 / 13	10 / 254	259	351
MB13T-EB080C045	286 / 130	17.5 / 444	28.9 / 733	4.2 / 106	16.1 / 410	1.0 / 25	12.5 / 318	11.0 / 279	16.1 / 410	13 / 330	354	480
MB13T-EB080C080	286 / 130	17.5 / 444	28.9 / 733	4.2 / 106	16.1 / 410	1.0 / 25	12.5 / 318	11.0 / 279	16.1 / 410	13 / 330	619	839
MB13T-EB125C125	286 / 130	17.5 / 444	28.9 / 733	4.2 / 106	16.1 / 410	1.0 / 25	12.5 / 318	11.0 / 279	16.1 / 410	13 / 330	956	1296

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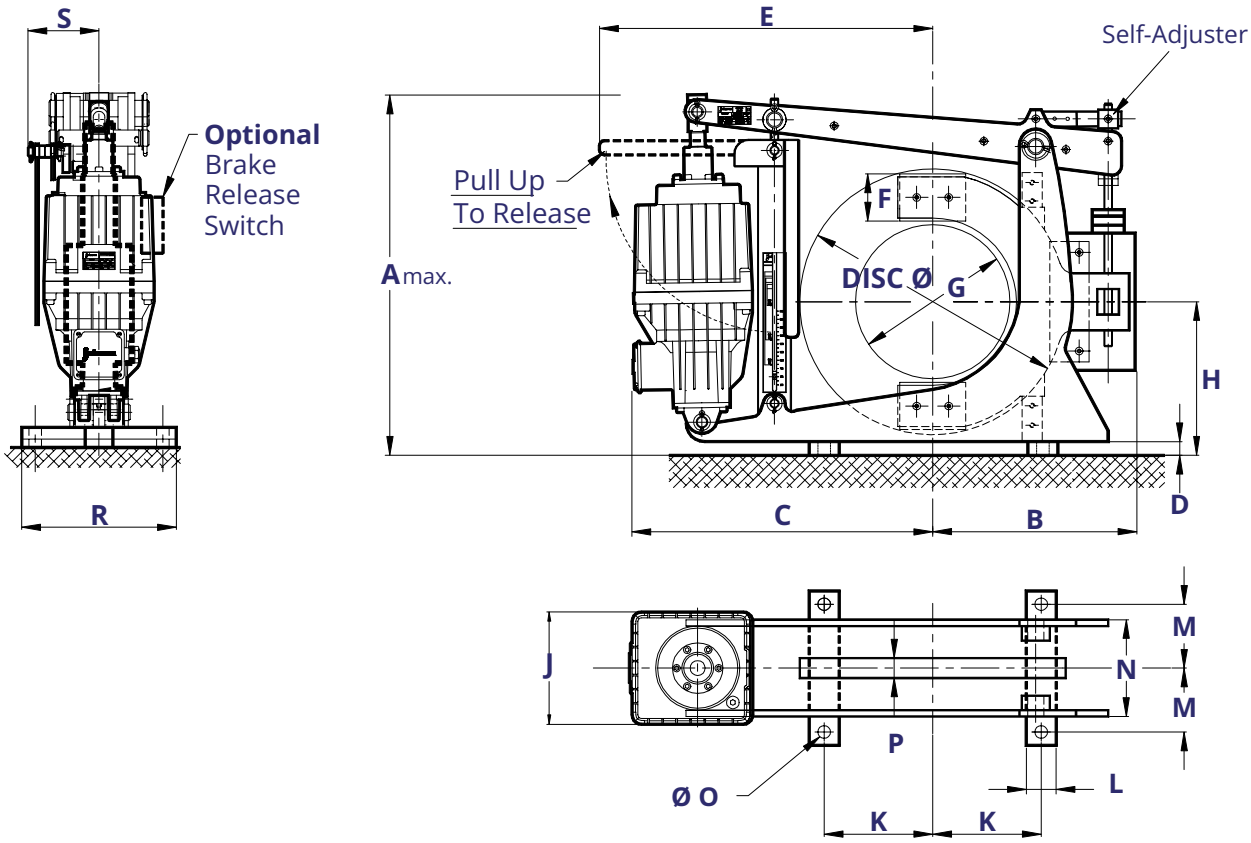
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TBC Thruster Disc Brakes

DRAWING
ATBC-01.1

Auto wear adjustment, zero overhung load, large pad area; footprint interchangeable with AISE shoe brakes



Specifications

As printed on the drawing (dual imperial / metric where shown)

- **NOTES:**
  - (1) Solid & ventilated discs available.
  - (2) Ventilated discs are 1.19" (30mm.) thick.
  - (3) Easy pad change.
  - (4) Max. coupling/hub diameter.
  - (5) Optional: switches.
  - (6) Manual release lever.
- Johnson EJ thrusters

Model-thruster	Max torque lb-ft	Nett weight lb	Thruster power W	Pad area in²	Disc dia in
TBC1317-EJ030	390	260	195	45	17
TBC1317-EJ050	640	275	210	45	17
TBC1317-EJ080	950	295	320	45	17
TBC1621-EJ050	800	375	210	75	21
TBC1621-EJ080	1,395	390	320	75	21
TBC1621-EJ121	2,110	390	320	75	21
TBC1924-EJ080	1,530	595	320	84	24
TBC1924-EJ121	2,400	595	320	84	24
TBC1924-EJ201	3,840	595	450	84	24
TBC2329-EJ121	2,530	925	320	122	29
TBC2329-EJ201	4,050	925	450	122	29
TBC2329-EJ301	6,070	925	560	122	29

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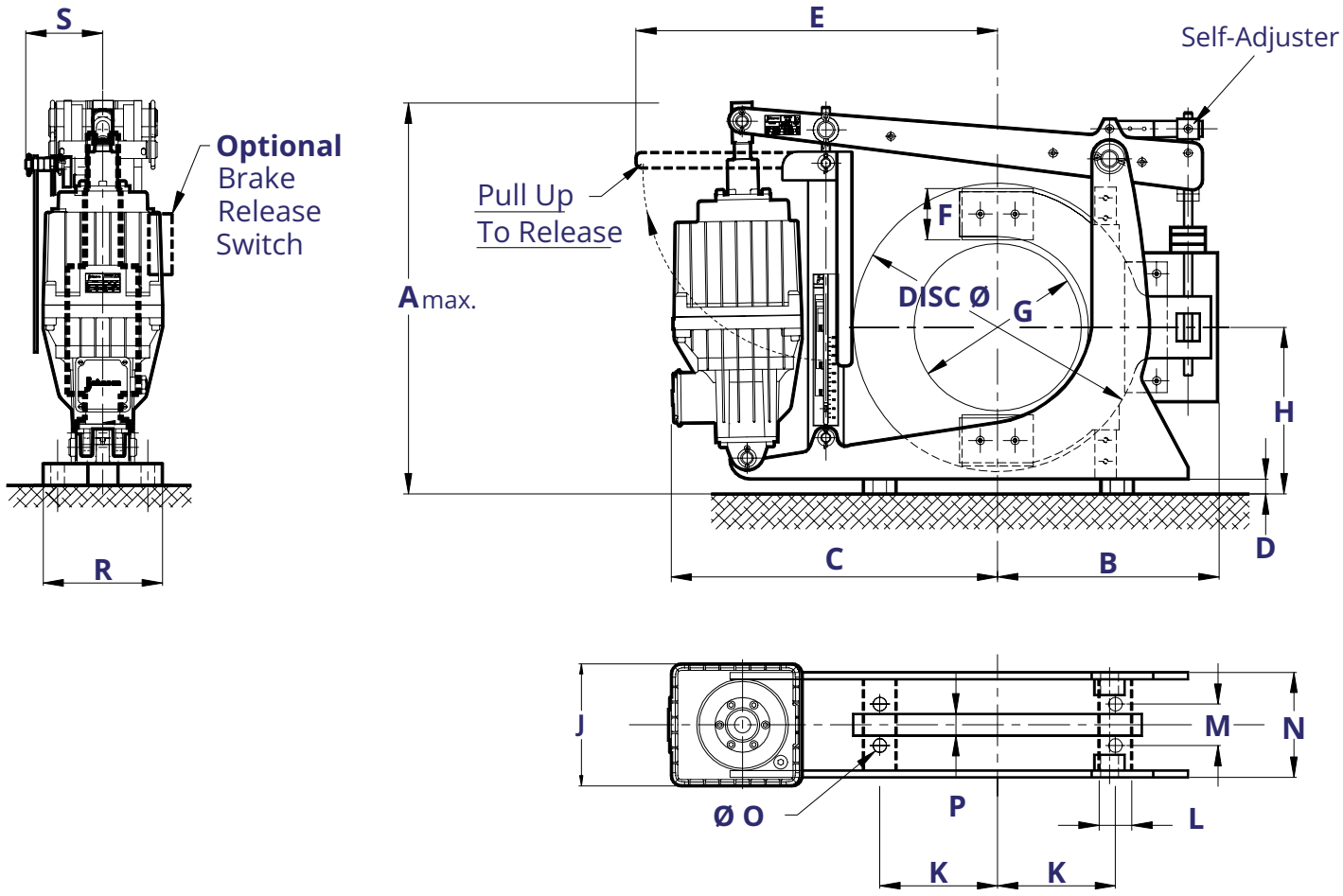
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TBC Thruster Disc Brakes

DRAWING
DTBC-01.1

Metric (DIN 15435) · Auto wear adjustment, zero overhung load, large pad area; footprint interchangeable with DIN 15435 shoe brakes



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TBC Thruster Disc Brakes

Metric (DIN 15435) — specifications

DRAWING
DTBC-01.1

Specifications

Metric (mm, Nm, Kg, KW, cm^2)

- **NOTES:**
  - (1) Solid & ventilated discs available.
  - (2) Ventilated discs are 30mm. thick.
  - (3) Easy pad change.
  - (4) Max. coupling/hub diameter.
  - (5) Optional: switches.
  - (6) Manual release lever.
- Spring applied, electrically released
- Auto wear adjustment — zero overhung load — large pad area
- Footprint interchangeable with DIN 15435 shoe brakes
- Solid & ventilated discs available; ventilated discs are 30 mm thick
- Easy pad change; G = max coupling/hub diameter; optional switches; manual release lever
- Always check available space when replacing existing brakes
- A full range of thrusters and friction linings is available to suit particular torque requirements
- Cold static torque values must be down rated by at least 20 percent
- Max dynamic torque is based on minimum air gap, largest spring and friction coefficient of 0.42
- Custom motor mounting hardware available

Model — thruster	Max torque Nm	Nett weight Kg	Thruster power KW	Pad area cm^2	Disc dia. mm	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S
TBC3143-EJ030	528	120	0.195	288	432	600	330	584	20	660	69	280	230	160	220	50	80	179	18	19	167	165
TBC3143-EJ050	867	125	0.21	288	432	600	330	584	20	660	69	280	230	190	220	50	80	179	18	19	167	165
TBC3143-EJ080	1287	135	0.32	288	432	600	330	584	20	660	69	280	230	190	220	50	80	179	18	19	167	165
TBC4058-EJ050	1080	170	0.21	480	533	800	400	648	20	724	84	317	280	190	270	80	100	229	22	19	217	165
TBC4058-EJ080	1890	179	0.32	480	533	800	400	648	20	724	84	317	280	190	270	80	100	229	22	19	217	165
TBC4058-EJ121	2860	179	0.32	480	533	800	400	648	20	724	84	317	280	240	270	80	100	229	22	19	217	165
TBC5061-EJ080	2070	270	0.32	542	610	865	420	724	25	736	99	380	340	190	325	80	130	282	22	25	270	165
TBC5061-EJ121	3260	270	0.32	542	610	865	420	724	25	736	99	380	340	240	325	80	130	282	22	25	270	165
TBC5061-EJ201	5200	270	0.45	542	610	865	420	724	25	736	99	380	340	240	325	80	130	282	22	25	270	165
TBC6373-EJ121	3430	420	0.32	787	737	1045	510	813	40	1066	121	457	420	240	400	90	170	300	27	25	288	178
TBC6373-EJ201	5490	420	0.45	787	737	1045	510	813	40	1066	121	457	420	240	400	90	170	300	27	25	288	178
TBC6373-EJ301	8225	420	0.56	787	737	1045	510	813	40	1066	121	457	420	240	400	90	170	300	27	25	288	178

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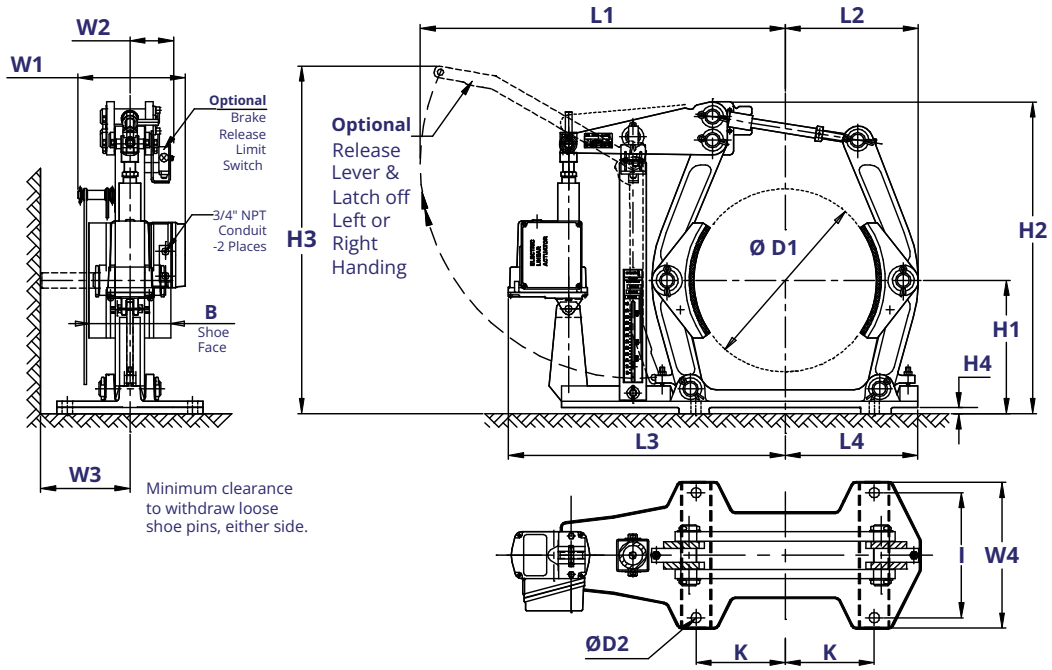
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SMLB Electro/Mechanical Actuator Series Drum Brakes

DRAWING
SMLB-EMA-1.0



Specifications

Imperial (in., lb-ft, lb) as AISE

- Actuator applied / actuator released
- Always check available space when replacing existing brakes
- A full range of thrusters and friction linings is available to suit particular torque requirements
- Cold STATIC torque values must be down rated by at least 20 percent
- Max dynamic torque is based on minimum air gap, largest spring and friction coefficient of 0.42
- Custom motor mounting hardware available
- D2 and H1 are nominal sizes
- Optional brake release limit switch; optional release lever & latch off, left or right handing
- 3/4 in NPT conduit, 2 places; minimum clearance to withdraw loose shoe pins, either side

Brake model number	Drum size D1	Max dynamic torque lb-ft	Actuator power KVA	Nett weight LB	B	D2*	H1*	H2	H3	H4	I	K	L1	L2	L3	L4	W1	W2	W3	W4
SMLB06-EMA23	6	180	0.12-0.3	80	2.13	7/16	4.750	14.7	15.0	0	3.00	4.00	14.8	5.00	18.0	5.50	10.0	4.75	3.3	4.0
SMLB08-EMA23	8	220	0.12-0.3	86	3.03	11/16	7.000	17.5	19.0	0.51	5.75	3.25	16.0	6.34	20.0	6.87	10.0	4.75	4.2	7.4
SMLB08-EMA30	8	290	0.12-0.3	91	3.03	11/16	7.000	17.5	19.0	0.51	5.75	3.25	16.0	6.34	20.0	6.87	10.0	4.75	4.2	7.4
SMLB10-EMA23	10	240	0.12-0.3	108	3.50	11/16	8.375	20.1	21.0	0.59	6.25	4.00	17.3	7.68	21.0	7.90	11.2	4.75	5.0	7.9
SMLB10-EMA30	10	320	0.12-0.3	113	3.50	11/16	8.375	20.1	21.0	0.59	6.25	4.00	17.3	7.68	21.0	7.90	11.2	4.75	5.0	7.9
SMLB10-EMA50	10	530	0.12-0.3	130	3.50	11/16	8.375	20.1	21.0	0.59	6.25	4.00	17.3	7.68	21.0	7.90	11.2	4.75	5.0	7.9
SMLB13-EMA30	13	380	0.12-0.3	166	5.51	13/16	9.875	24.3	27.0	0.51	9.00	5.75	25.7	9.82	23.0	10.00	11.2	4.75	6.1	11.0
SMLB13-EMA50	13	640	0.12-0.3	175	5.51	13/16	9.875	24.3	27.0	0.51	9.00	5.75	25.7	9.82	23.0	10.00	11.2	4.75	6.1	11.0
SMLB13-EMA80	13	1140	0.12-0.3	177	5.51	13/16	9.875	24.3	27.0	0.51	9.00	5.75	25.7	9.82	23.0	10.00	11.2	4.75	6.1	11.0
SMLB16-EMA50	16	630	0.12-0.3	238	6.50	1-1/16	12.125	30.5	33.0	0.71	10.75	7.50	27.5	11.61	26.0	11.73	11.2	4.75	7.40	13.0
SMLB16-EMA80	16	1190	0.12-0.3	239	6.50	1-1/16	12.125	30.5	33.0	0.71	10.75	7.50	27.5	11.61	26.0	11.73	11.2	4.75	7.40	13.0
SMLB16-EMA121	16	1960	0.12-0.3	264	6.50	1-1/16	12.125	30.5	33.0	0.71	10.75	7.50	27.5	11.61	26.0	11.73	11.2	4.75	7.40	13.0
SMLB19-EMA80	19	1180	0.12-0.3	310	8.50	1-1/16	13.250	31.9	36.0	0	13	9.25	38.9	14.0	29.0	13.8	11.2	4.75	9.3	15.8
SMLB19-EMA121	19	2140	0.12-0.3	322	8.50	1-1/16	13.250	31.9	36.0	0	13	9.25	38.9	14.0	29.0	13.8	11.2	4.75	9.3	15.8
SMLB19-EMA201	19	3850	0.12-0.3	322	8.50	1-1/16	13.250	31.9	36.0	0	13	9.25	38.9	14.0	29.0	13.8	11.2	4.75	9.3	15.8

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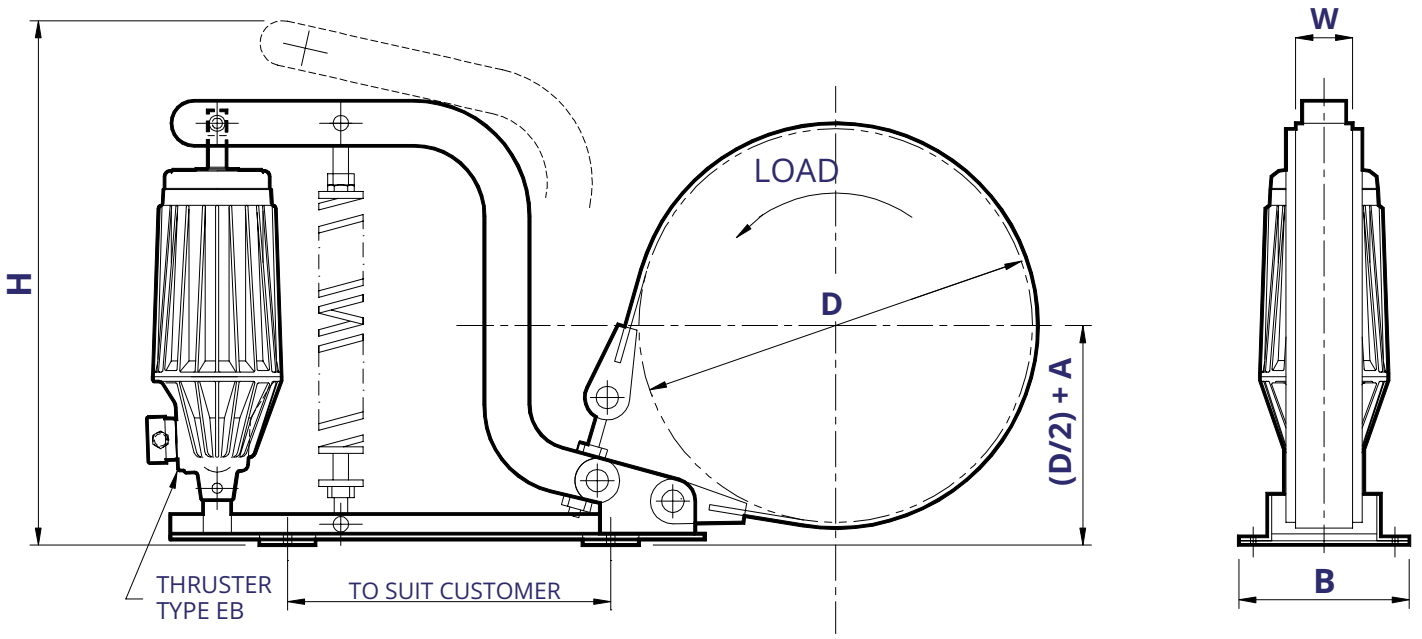
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Thruster Band Brakes

Basic Range (with Elhy thrusters)

DRAWING
BBB-01.1

TYPICAL ARRANGEMENT



Specifications

Dual imperial / metric (kip-ft/kNm, in/mm)

- Spring applied, 3-phase thruster released band brakes are self energising in one direction and obtain high braking torque relative to the diameter
- Often used as an emergency stop brake applied directly to a crane hoist barrel; most diameters can be accommodated within the range
- Alternative release may be by high pressure hydraulic cylinder with suitable power pack (also available)
- The high tensile flexible steel band is lined with non-asbestos friction material which is easily replaceable, and the spring can be adjusted for reduced torque to suit site conditions
- Base length to suit customer
- Always check available space when replacing existing brakes

Band brake size	Thruster type EB	Torque range kip-ft / kNm	Diameter range D in/mm	W in/mm	H in/mm	A in/mm	B in/mm
1	80/160	6.3–10 / 8.5–14	12–20 / 300–500	2.94 / 75	33.88 / 860	1.56 / 40	9.81 / 250
2	150/160	18–22 / 25–30	20–24 / 500–600	4.31 / 110	33.88 / 860	1.94 / 50	9.81 / 250
3	250/160	25–33 / 34–45	24–31 / 600–800	4.31 / 110	38.56 / 980	2.75 / 70	11.81 / 300
4	250/160	40–49 / 54–67	31–39 / 800–1000	5.88 / 150	39.38 / 1000	3.56 / 90	11.81 / 300
5	250/160	49–69 / 67–94	39–55 / 1000–1400	7.88 / 200	40.94 / 1040	5.13 / 130	11.81 / 300
6	2 × 250/160	98–139 / 133–188	39–55 / 1000–1400	7.88 / 200	40.94 / 1040	5.13 / 130	19.69 / 500

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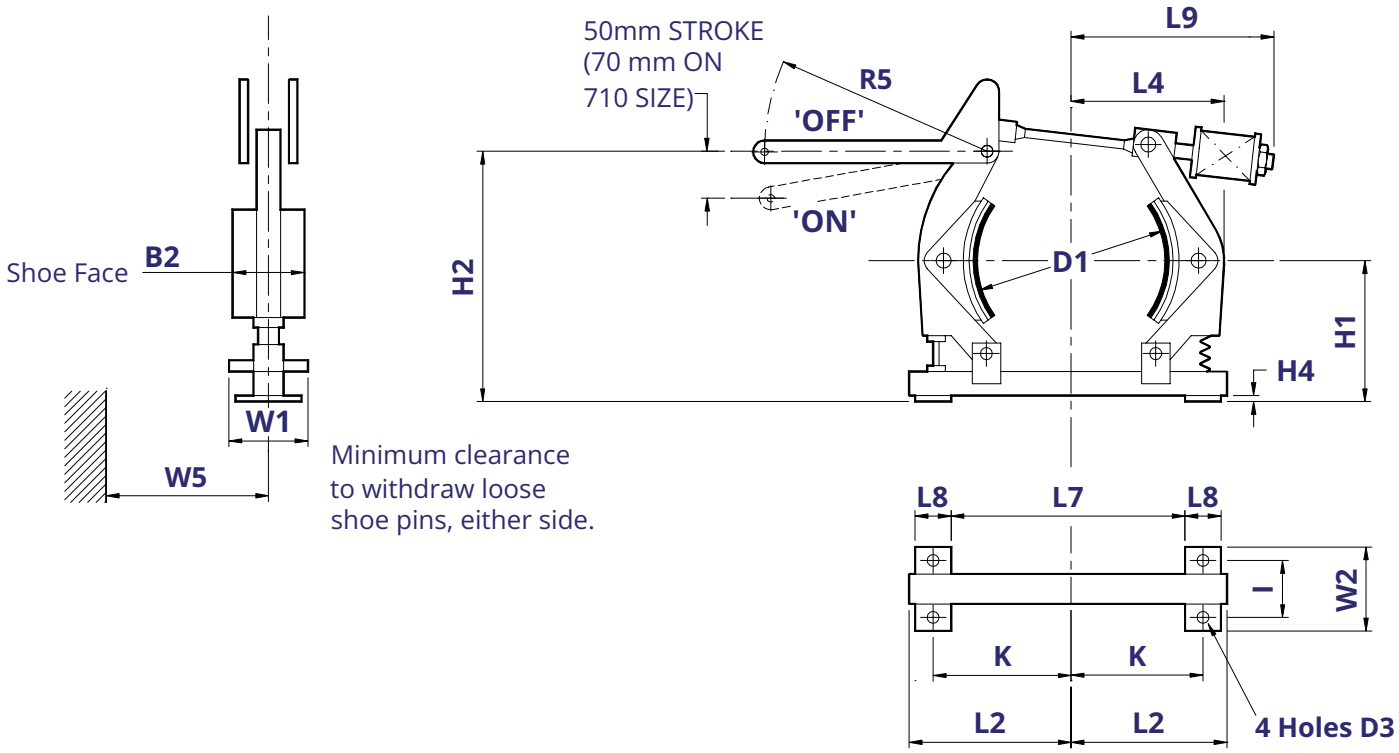
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DR Lever Applied Drum Brakes

DRAWING
DRB-01.0



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DR Lever Applied Drum Brakes

specifications

DRAWING
DRB-01.0

Specifications

Dual imperial / metric (in/mm, lb-ft/Nm, lbf/N, lb/kg, ft^3/m^3); metric as DIN 15435

- NOTE: A stop must be fitted to the external linkage to limit downward stroke of brake lever as shown. Also a throw off spring to lift the lever and open the brake shoes.
- **OPTIONAL EXTRAS:**
  - Various monitor switches
  - Weatherproof
  - Stub pins for brake shoe removal in confined areas.
- Always check available space when replacing existing brakes.
- NOTE: Alternative imperial brake shoe sizes are not direct conversions of the standard DIN 15435 metric.
- Minimum clearance to withdraw loose shoe pins, either side
- 50 mm stroke (70 mm on the 710 size)
- 4 mounting holes D3

Brake code	Drum size D1 in/mm	Torque lb-ft/Nm	Lever effort lbf/N	Nett mass lb/kg	Gross mass lb/kg	Volume ft^3/m^3	B2	D3	H1	H2	H3	H4	I
DR-6 / DR-160	6 / 160	65 / 88	22 / 98	26 / 12	33 / 15	1.1 / 0.03	2.19/55	0.438/11	4.764/121	8.38/213	9.81/250	0.315/8	3/76
DR-8 / DR-200	8 / 200	188 / 255	48 / 215	49 / 22	62 / 28	2.5 / 0.07	2.75/70	0.563/14	6.299/160	12.63/320	14/355	0.315/8	2.19/55
DR-10 / DR-250	10 / 250	247 / 335	48 / 215	53 / 24	66 / 30	3.2 / 0.09	3.56/90	0.688/18	7.480/190	13.50/343	17.81/452	0.315/8	2.56/65
DR-12 / DR-315	12 / 315	444 / 600	71 / 314	137 / 62	172 / 78	4.9 / 0.14	2.8/110	0.688/18	9.055/230	16.94/430	22.19/563	0.315/8	3.13/80
DR-16 / DR-400	16 / 400	1525 / 2070	190 / 844	176 / 80	220 / 100	7.1 / 0.20	5.50/140	0.875/22	11.024/280	21.63/550	23.25/590	0.669/17	3.94/100
DR-20 / DR-500	20 / 500	2550 / 3455	330 / 1470	330 / 150	419 / 190	11.3 / 0.32	7.06/180	0.875/22	13.386/340	25.56/650	28.38/720	0.669/17	5.13/130
DR-24 / DR-630	24 / 630	4050 / 5495	440 / 1960	485 / 220	606 / 275	26.5 / 0.75	8.88/225	1.063/27	16.535/420	31.69/805	36/915	1.102/28	6.69/170
DR-28 / DR-710	28 / 710	8260 / 11200	950 / 4220	705 / 320	882 / 400	35.3 / 1.00	10.06/255	1.063/27	18.504/470	36.25/920	39.75/1010	1.102/29	7.50/190

Brake code	K	L2	L4	L6	L7	L8	L9	R5	W1	W2	W5
DR-6 / DR-160	4/102	5.31/135	5.50/140	10.44/265	6/153	1.94/50	10.25/260	7/178	4/102	4.18/106	4.72/120
DR-8 / DR-200	5.69/145	6.88/175	6.88/175	12.19/310	9.44/240	1.94/50	9.44/240	7.88/200	3.56/90	3.13/80	5.12/130
DR-10 / DR-250	7.06/180	8.44/215	8.69/220	16.94/430	12.19/310	1.94/50	10.63/270	11.75/298	4.13/104	3.94/100	5.75/146
DR-12 / DR-315	8.69/220	9.81/250	10.25/260	19.50/495	14.19/360	2.56/65	12.63/320	13.38/340	5.06/128	4.75/120	7.68/195
DR-16 / DR-400	10.63/270	11.81/300	12.69/323	22.63/574	19.31/490	1.94/50	16.56/420	14.56/370	6.50/165	5.88/150	12.60/320
DR-20 / DR-500	12.81/325	14.56/370	15.38/390	24/610	22.44/570	3.13/80	22.25/565	14.50/368	8.88/225	7.88/200	15.75/400
DR-24 / DR-630	15.75/400	17.31/440	19.13/486	28.13/715	19.69/500	7.06/180	24.81/630	17.81/452	9.63/245	8.25/210	18.50/470
DR-28 / DR-710	17.69/450	19.69/500	21.25/540	30.69/780	22.81/580	7.88/200	29.94/760	16.13/410	10.25/260	9.44/240	16.73/425

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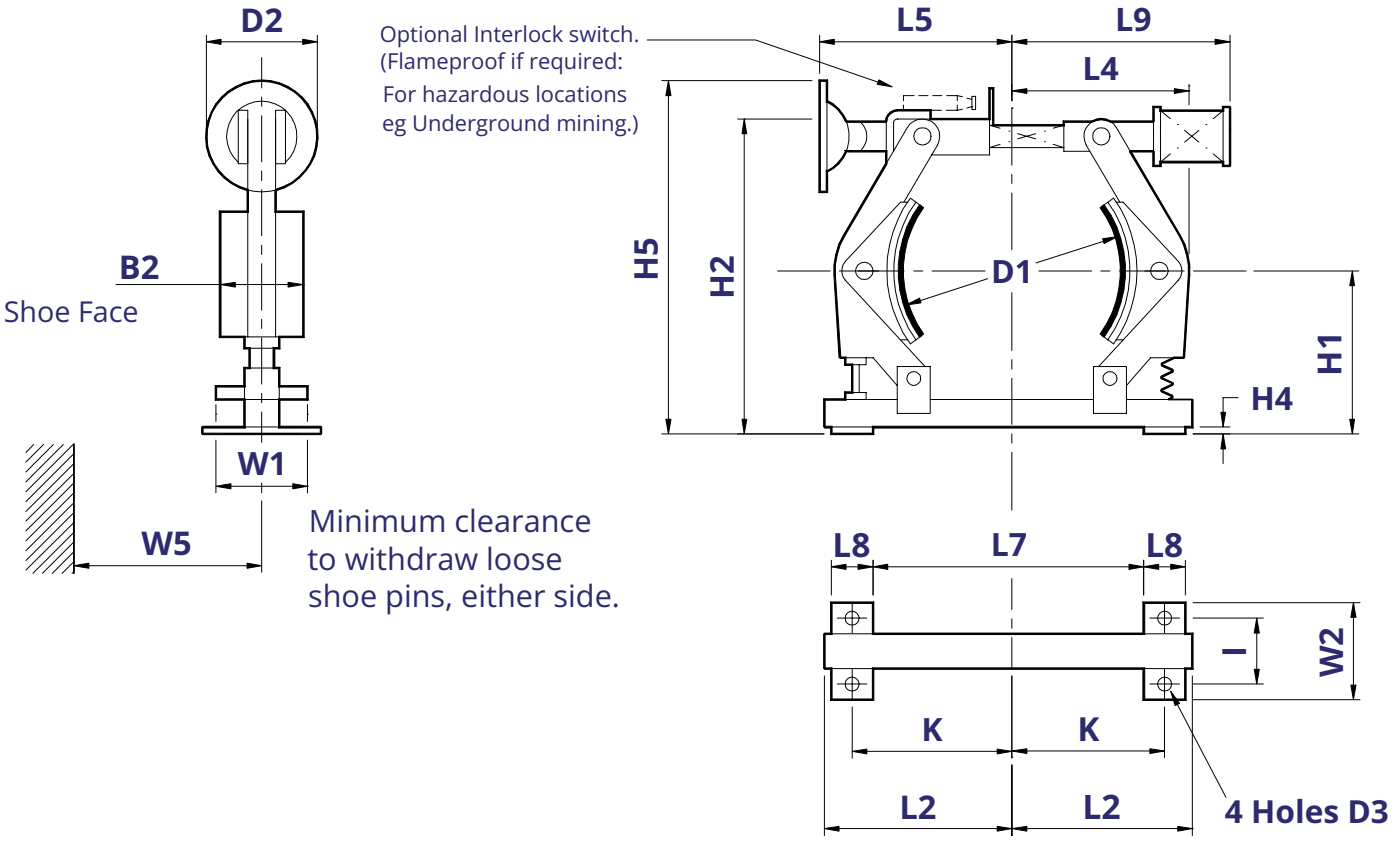
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DW Handwheel Applied Drum Brakes

DRAWING
DWB-01.1



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DW Handwheel Applied Drum Brakes

specifications

DRAWING
DWB-01.1

Specifications

Dual imperial / metric (in/mm, lb-ft/Nm, lb/kg, ft^3/m^3); metric as DIN 15435

- **OPTIONAL EXTRAS:**
  - Various monitor switches
  - Weatherproof
  - Stub pins for brake shoe removal in confined areas.
- Always check available space when replacing existing brakes.
- NOTE: Alternative imperial brake shoe sizes are not direct conversions of the standard DIN 15435 metric.
- Minimum clearance to withdraw loose shoe pins, either side
- Optional interlock switch (flameproof if required, for hazardous locations e.g. underground mining)
- 4 mounting holes D3

Brake code	Drum size D1 in/mm	Torque lb-ft/Nm	Nett mass lb/kg	Gross mass lb/kg	Volume ft^3/m^3	B2	D2	D3	H1	H2	H4	H5	I
DW-6 / DW-160	6 / 160	87 / 118	26 / 12	33 / 15	1.1 / 0.03	2.19/55	4.00/102	0.438/11	4.764/121	10.06/255	0.315/8	10.38/264	3/76
DW-8 / DW-200	8 / 200	210 / 285	49 / 22	62 / 28	2.5 / 0.07	2.75/70	7.06/180	0.563/14	6.299/160	13/330	0.315/8	15.19/385	2.19/55
DW-10 / DW-250	10 / 250	246 / 334	53 / 24	66 / 30	3.2 / 0.09	3.56/90	7.06/180	0.688/18	7.480/190	14.94/380	0.315/8	17.13/435	2.56/65
DW-12 / DW-315	12 / 315	600 / 814	137 / 62	172 / 78	4.9 / 0.14	2.8/110	8.00/203	0.688/18	9.055/230	18.88/480	0.315/8	20.88/530	3.13/80
DW-16 / DW-400	16 / 400	1010 / 1370	176 / 80	220 / 100	7.1 / 0.20	5.50/140	10.00/254	0.875/22	11.024/280	21.63/550	0.669/17	25.19/640	3.94/100
DW-20 / DW-500	20 / 500	1530 / 2070	285 / 130	375 / 170	11.3 / 0.32	7.06/180	12.00/305	0.875/22	13.386/340	25.89/658	0.669/17	31.50/800	5.13/130
DW-24 / DW-630	24 / 630	2000 / 2710	485 / 220	606 / 275	19.4 / 0.55	8.88/225	16.00/407	1.063/27	16.535/420	33.88/860	1.102/28	39.00/990	6.69/170
DW-28 / DW-710	28 / 710	5690 / 7720	705 / 320	882 / 400	28.3 / 0.80	10.06/255	17.00/432	1.063/27	18.504/470	37/940	1.142/29	43.69/1110	7.50/190
DW-30 / DW-760	30 / 760	6150 / 8340	970 / 440	1210 / 550	38.8 / 1.10	10.00/254	18.00/457	1.313/33	22.244/565	43.13/1095	1.375/35	48.06/1220	11.50/292

Brake code	K	L2	L4	L5	L7	L8	L9	W1	W2	W5
DW-6 / DW-160	4/102	5.31/135	5.31/135	9.63/245	6/153	1.94/50	10.94/277	4.19/106	4.18/106	4.72/120
DW-8 / DW-200	5.69/145	6.88/175	6.88/175	11.81/300	9.44/240	1.94/50	10.25/260	3.56/90	3.13/80	5.12/130
DW-10 / DW-250	7.06/180	8.44/215	8.69/220	10.06/255	12.19/310	1.94/50	11.63/295	4.13/105	3.94/100	5.75/146
DW-12 / DW-315	8.69/220	9.81/250	10.25/260	11.00/280	14.19/360	2.56/65	14.56/370	4.75/120	4.75/120	7.68/195
DW-16 / DW-400	10.63/270	11.81/300	12.69/323	14.56/370	19.31/490	1.94/50	18.13/460	7.31/186	5.88/150	12.60/320
DW-20 / DW-500	12.81/325	14.56/370	15.38/390	18.13/460	22.44/570	3.13/80	19.69/500	7.69/195	7.88/200	15.75/400
DW-24 / DW-630	15.75/400	17.31/440	19.13/486	23.25/590	19.69/500	7.06/180	26.38/670	9.63/244	8.25/210	18.50/470
DW-28 / DW-710	17.69/450	19.69/500	21.25/540	28.75/730	22.81/580	7.88/200	33.50/850	10.56/268	9.44/240	16.73/425
DW-30 / DW-760	13.25/337	26.00/660	24.44/620	34.00/864	21.50/546	5.00/127	39.00/991	14.50/368	8.25/210	16.73/425

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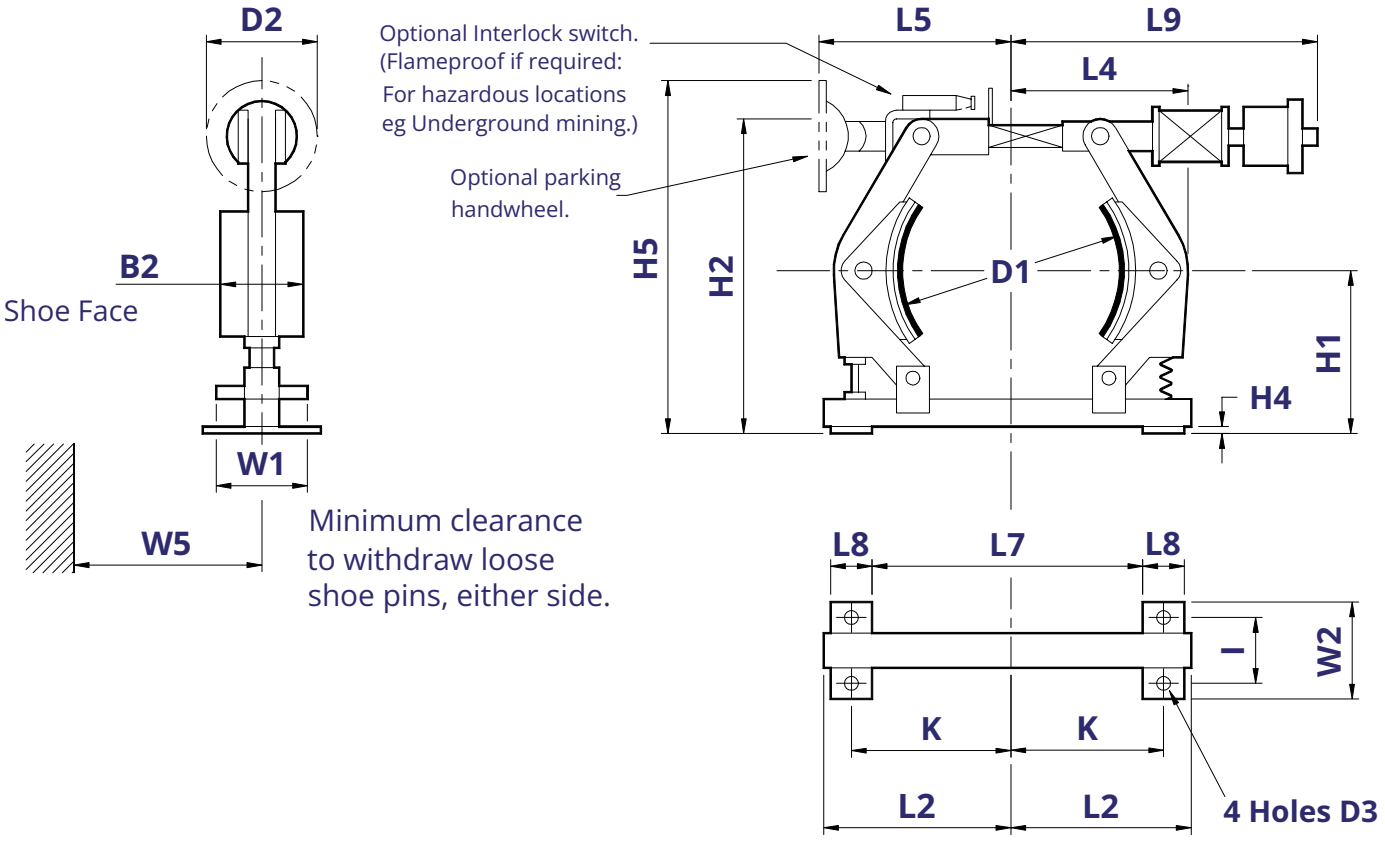
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DQ Hydraulic Applied Drum Brakes

Metric

DRAWING
DQB-01.3



Specifications

Metric (mm, Nm, N, kg, KPa) as DIN 15435

- **OPTIONAL EXTRAS:**
  - Various monitor switches
  - Weatherproof
  - Stub pins for brake shoe removal in confined areas.
  - Screw-on handwheel
  - Interlock switch. (Flameproof if required)
- Always check available space when replacing existing brakes.
- These brakes are standard foot mounting units with separate operating pedal for use with crane travel motions or similar drives requiring sensitive control of braking torque. - See overleaf for suitable pedal.
- NOTE: Alternative imperial brake shoe sizes are not direct conversions of the standard DIN 15435 metric.
- Pressure supplied by pedal stroke or line
- Optional parking handwheel
- 4 mounting holes D3

Brake code	Drum size D1	Service torque Nm	Emergency torque Nm	Service pedal effort N	Emergency pedal effort N	Nett weight kg	Pressure at max torque KPa	B2	D2	D3	H1	H2	H4	H5	I	K	L2	L4	L5	L7	L8	L9	W1	W2	W5
DQ-160	160	48	170	89	133	12	660	55	102	11	121	255	8	264	76	102	135	135	245	153	50	321	106	106	120
DQ-200	200	212	442	133	200	22	520	70	180	14	160	330	8	385	55	145	175	175	250	240	50	315	90	80	130
DQ-250	250	380	724	160	240	24	680	90	180	18	190	380	8	435	65	180	215	220	255	310	50	352	105	100	146
DQ-315	315	816	1418	222	334	62	1060	110	203	18	230	480	8	530	80	220	250	260	280	360	65	430	120	120	195
DQ-400	400	1342	2259	267	400	80	1330	140	254	22	280	550	17	640	100	270	300	323	370	490	50	500	186	150	320
DQ-500	500	1677	2824	267	400	130	1330	180	305	22	340	658	17	800	130	325	370	390	460	570	80	650	195	200	400

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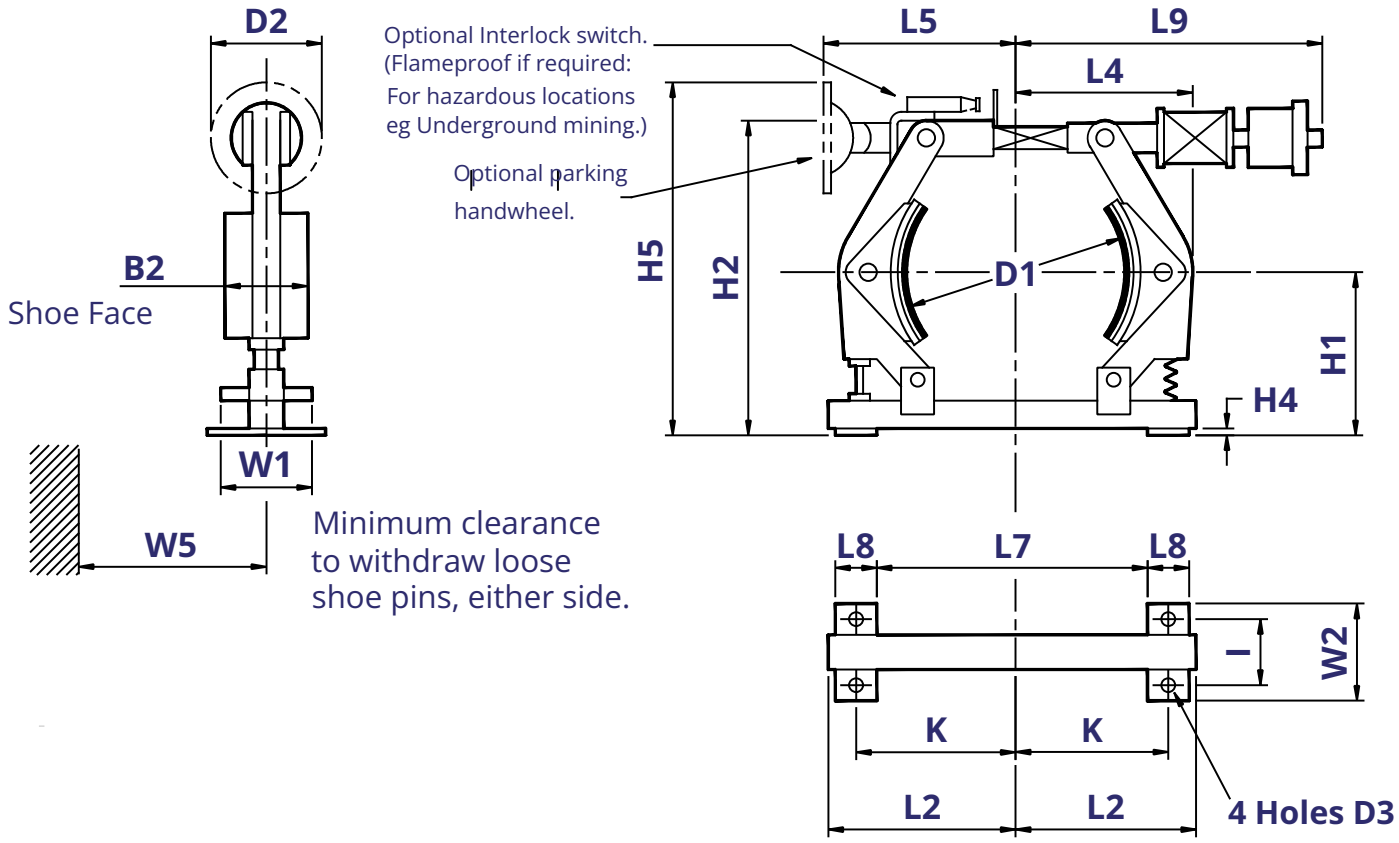
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SQ Hydraulic Applied Drum Brakes

Imperial

DRAWING
SQB-01.4



Specifications

Imperial (in, lbft, lbf, lb, psi)

- **OPTIONAL EXTRAS:**
  - Various monitor switches
  - Weatherproof
  - Stub pins for brake shoe removal in confined areas.
  - Screw-on handwheel
  - Interlock switch. (Flameproof if required)
- Always check available space when replacing existing brakes.
- These brakes are standard foot mounting units with separate operating pedal for use with crane travel motions or similar drives requiring sensitive control of braking torque. - See overleaf for suitable pedal.
- Pressure supplied by pedal stroke or line
- Optional parking handwheel
- 4 mounting holes D3

Brake code	Drum size D1	Service torque lbft	Emergency torque lbft	Service pedal effort lbf	Emergency pedal effort lbf	Nett weight lb	Pressure at max torque psi	B2	D2	D3	H1	H2	H4	H5	I	K	L2	L4	L5	L7	L8	L9	W1	W2	W5
SQ-6	6	51	87	20	28	26	96	2.36	4	0.44	4.75	10.13	0.31	10.4	3	4	5.38	5.38	9.5	6	2	12.75	4.19	4	4.4
SQ-8	8	173	260	30	47	49	75	2.76	7	0.69	7	13	1	16.2	5.75	3.25	6.88	6.88	9.8	4.5	2	12.5	3.75	7.38	4.9
SQ-10	10	246	360	38	44	53	99	3.5	7	0.69	8.38	15	1.25	18.13	6.25	4	8.75	8.75	10	6	2	13.88	3.75	7.88	6
SQ-13	13	420	810	43	67	137	154	5.5	8	0.81	9.88	19.5	1.12	21.7	9	5.75	10.25	10.25	11	9.13	2.5	16.75	5	11	7.2
SQ-16	16	535	1040	43	67	176	193	6.5	10	1.06	12.13	22.37	0.7	26.3	10.75	7.5	12.75	12.75	14.5	12.63	2	19.75	8	13	6.5
SQ-19	19	670	1300	43	67	285	193	8.5	12	1.06	13.25	26	0.5	31.4	13	9.25	15.38	15.4	18.1	15.4	3.13	26	11	15.75	7.9

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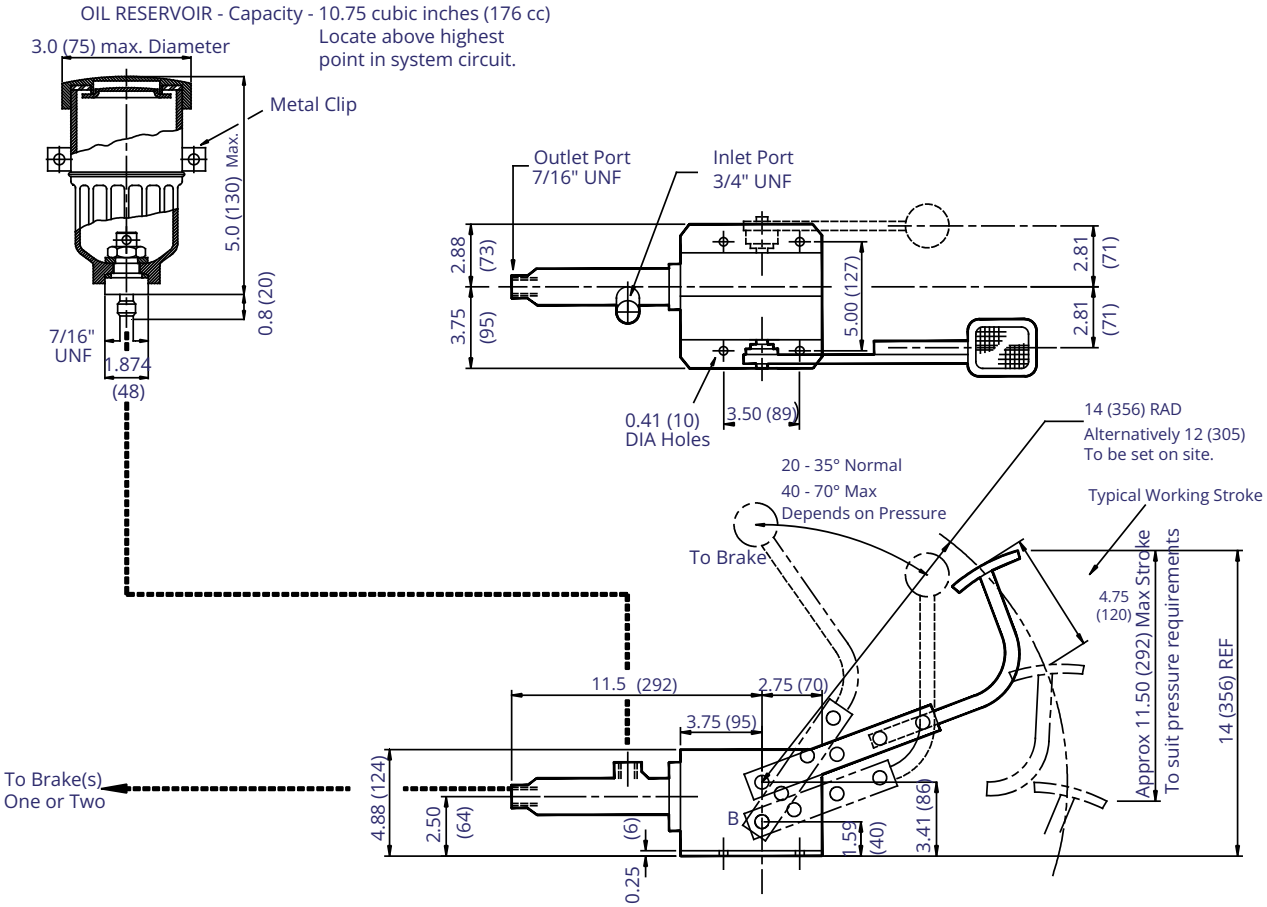
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Control Options

For DQ hydraulic applied drum brake

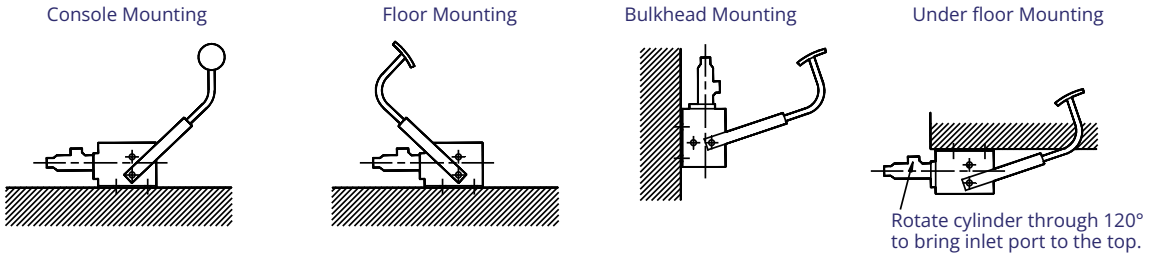
DRAWING
DQP-01.5



SPECIFICATIONS

Fluid Type	Displacement in³ (cc)
Automotive Brake Fluid * Dot 3 or 4 * ISO 4925 * SAE J1703	1.227 (20)

Alternative Mounting Positions



Notes

- Optional handle shown in alternative lever position. Lever can be re-assembled on LH or RH side at any angle on shaft in 30° increments.
- Pedal shaft can be re-assembled in lower hole 'B' to give anti-clockwise lever rotation.
- All dimensions are in inches (millimeters)

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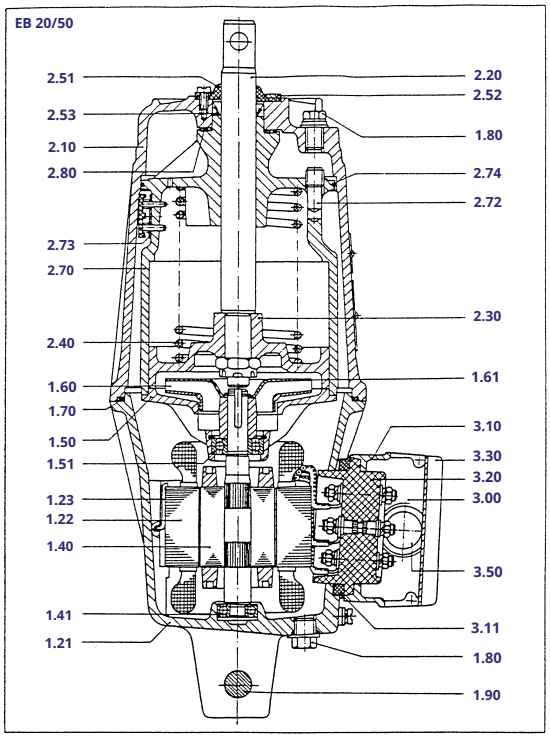
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Elhy Thrusters

Design and method of operation



Notes

- **Pull-back spring C** If a pull-back spring is provided between the piston and the bottom of the guide cylinder, then the hydraulic force is opposed by the spring force. Consequently, only the difference between these two forces is available as actuating power.
- **Adjusting spring R/Attenuation spring R** The adjusting spring R/attenuation spring R which is mainly provided in ELHY devices used as brake magnets ensures that during braking the braking force is steadily increasing from the moment of contact of the brake shoes till the value for stopping is reached, i.e. very smooth braking is facilitated. When the brake is released, the braking force is steadily decreasing from the maximum value down to zero.
- **Lifting, lowering and throttle valves** If the ELHY device is furnished with one of these three valve types, it acts as a control point in the hydraulic circuit guiding the hydraulic flow in one and/or both directions. The type of valve used most frequently in ELHY devices applied as brake magnets is the lowering valve (S) which causes a delayed return movement of the piston and, consequently, compared to the switch-off moment, a delayed action of the brake. In actuating (lifting) direction of the piston, the valve will be opened due to the flow pressure in the hydraulic circuit, thus clearing a much larger inlet cross section in the partition wall between the cylinder space above the piston and the bypass duct allowing a quick actuating (lifting) movement. During the return movement, the valve is closed by the valve springs as well as by the flow pressure, and the hydraulic fluid can only flow through the opening which is cleared by the particular position of the regulating plug.
- In the version using the lifting valve (H), the valve is arranged such that it acts opposite the direction of the hydraulic flow and, consequently, also opposite to the piston stroke.
- In the version using the throttle valve (D), the valve acts in both directions, i.e. the lowering as well as the lifting direction, so that a delay is caused in both stroke directions of the piston. The setting or pull-back times which are infinitely variable are set by means of the regulating plug.
- The motor-driven blade wheel generates a hydraulic pressure in the space beneath the piston. Consequently, a hydraulic force will act on the piston surface. This force is dependent on the hydraulic pressure and the size of the piston surface. However, the hydraulic force is independent of the position of the piston. Under the influence of the hydraulic force, the piston moves up and down and delivers the hydraulic fluid through the bypass duct to the inlet opening of the blade wheel. When the motor is switched off, the piston is returned into its home position under the influence of the external load or the built-in pull-back spring. During this return motion, the hydraulic fluid under the piston is forced back through the blade wheel, the inlet opening and the bypass duct of the casting into the cylinder space above the piston.

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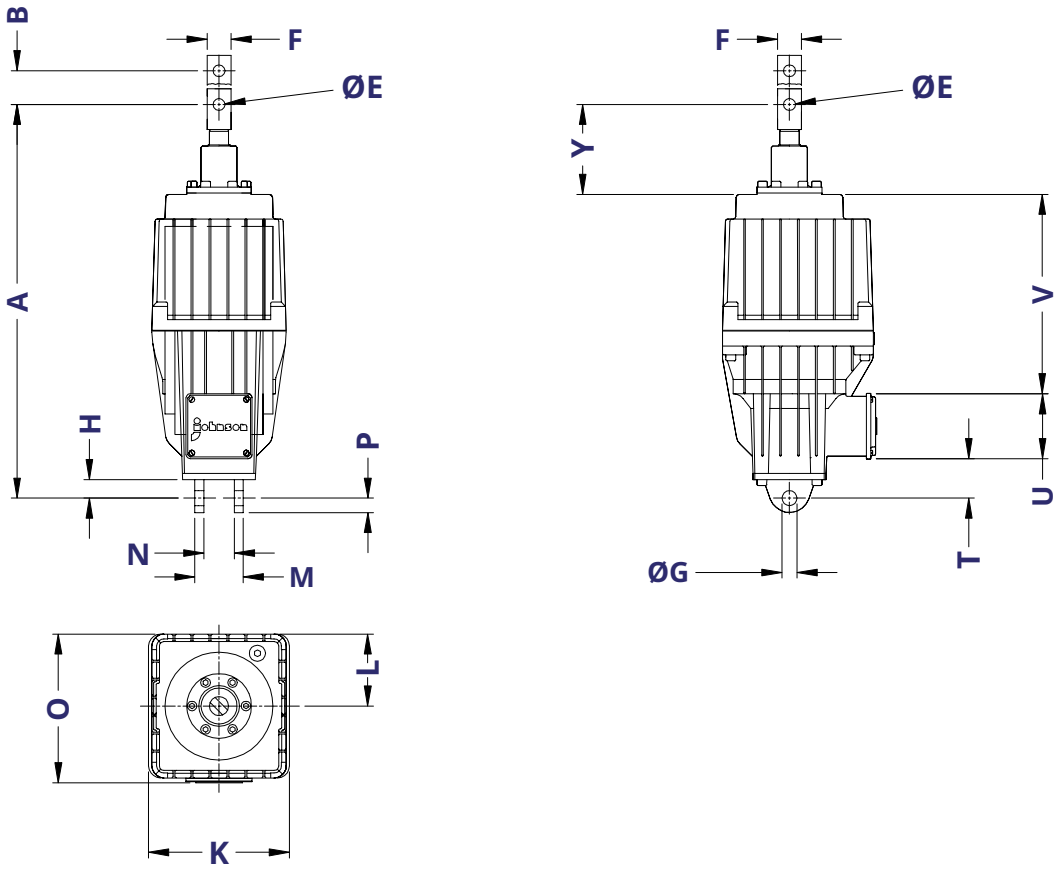
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Johnson (EJ) Thrusters

Data Sheet

DRAWING
EJDS-1.0



Specifications

Metric (mm, N, W, A, Kg) as DIN 15435

- Lifting force quoted at 20 °C
- Current quoted at 400 V
- Max cycles per hour quoted at 50 °C maximum room temperature

Brake code	Lifting force (20°C) N	Stroke mm	Internal spring force N	Power (20°C) W	Current (400V) A	Max cycles per hour (50°C max)	Max room temp °C	Weight Kg	A	B	ØE	F	ØG	H	K	L	M	N	O	P	T	U	V	Y
EJ 015/05	160	50	100–150	140	0.36	2000	50	9	280	50	12	20	12	17	144	72	62	30	190	14	16	110	128.5	25.5
EJ 023/05	220	50	155–245	160	0.5	2000	50	11	286	50	12	20	16	18	160	80	80	40	198	16	17	110	133.5	25.5
EJ 030/05	300	50+5	240–450	195	0.5	2000	50	15	370	50	16	25	16	18	160	80	80	40	198	16	17	110	206	37
EJ 050/06	500	60+5	430–550	210	0.5	2000	50	25	435	60	20	30	20	23	190	95	120	60	241	22	29	110	255	41
EJ 050/12	500	120	—	210	0.5	2000	50	28	515	120	20	30	20	23	190	95	120	60	241	22	29	110	335	41
EJ 080/06	800	60+5	700–900	320	1.2	2000	50	26	450	60	20	30	20	23	190	95	120	60	241	22	29	110	255	56
EJ 080/12	800	120	—	320	1.2	2000	50	29	530	120	20	30	20	23	190	95	120	60	241	22	29	110	335	56
EJ 121/06	1250	60+10	1000–1400	320	1.2	2000	50	43	645	60	25	40	25	31	240	112	90	40	258	24	65	110	332	138
EJ 121/12	1250	120	—	320	1.2	1250	50	44	705	120	25	40	25	31	240	112	90	40	258	24	65	110	332	198
EJ 201/06	2000	60+10	1720–2200	450	1.3	2000	50	43	645	60	25	40	25	31	240	112	90	40	258	24	65	110	332	138
EJ 201/12	2000	120	—	450	1.3	1250	50	44	705	120	25	40	25	31	240	112	90	40	258	24	65	110	332	198
EJ 301/06	3000	60+10	2450–3200	560	1.4	1500	50	44	645	60	25	40	25	31	240	112	90	40	258	24	65	110	332	138
EJ 301/12	3000	120	—	560	1.4	850	50	45	705	120	25	40	25	31	240	112	90	40	258	24	65	110	332	198

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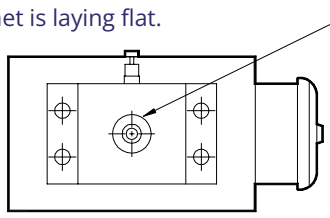
Elevanja 3 Phase Solenoids (sizes AM01–AM7)

DISCONTINUED — no replacement available · Totally enclosed or weatherproof

DRAWING
PSB-01.1

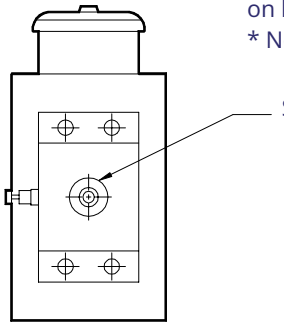
HORIZONTAL 'A' OPTION

Magnet is laying flat.



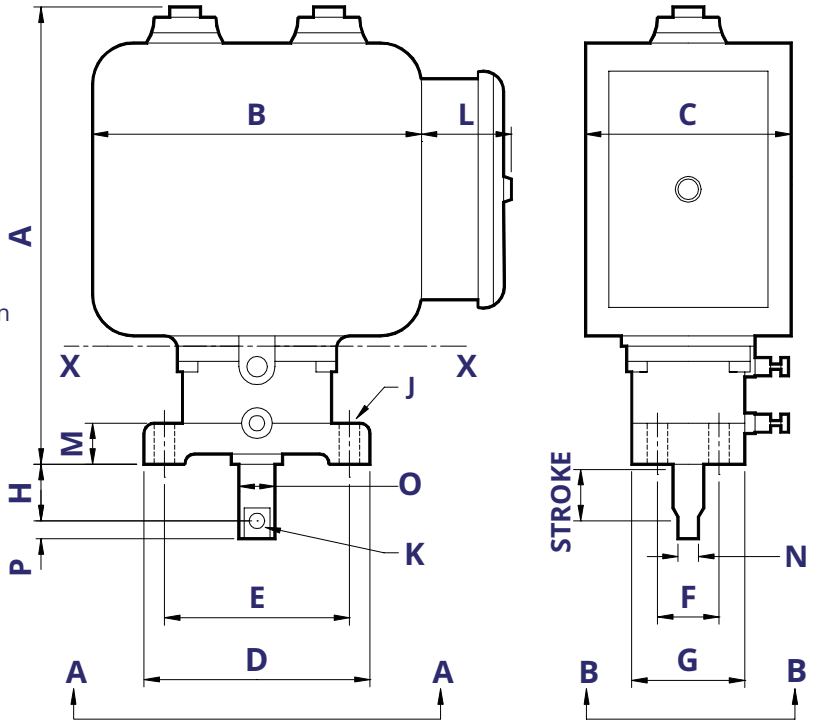
HORIZONTAL 'B' OPTION

Magnet is standing upright.



Magnet Fixing Base can be turned through 90° on line X-X.
* Not field reversible.

STANDARD VERTICAL OPTION



Specifications

Discontinued — no replacement available

This product is obsolete and is no longer manufactured or supplied by Johnson Industries. No replacement is available. The drawing is retained for reference only; its specification data has been withdrawn.

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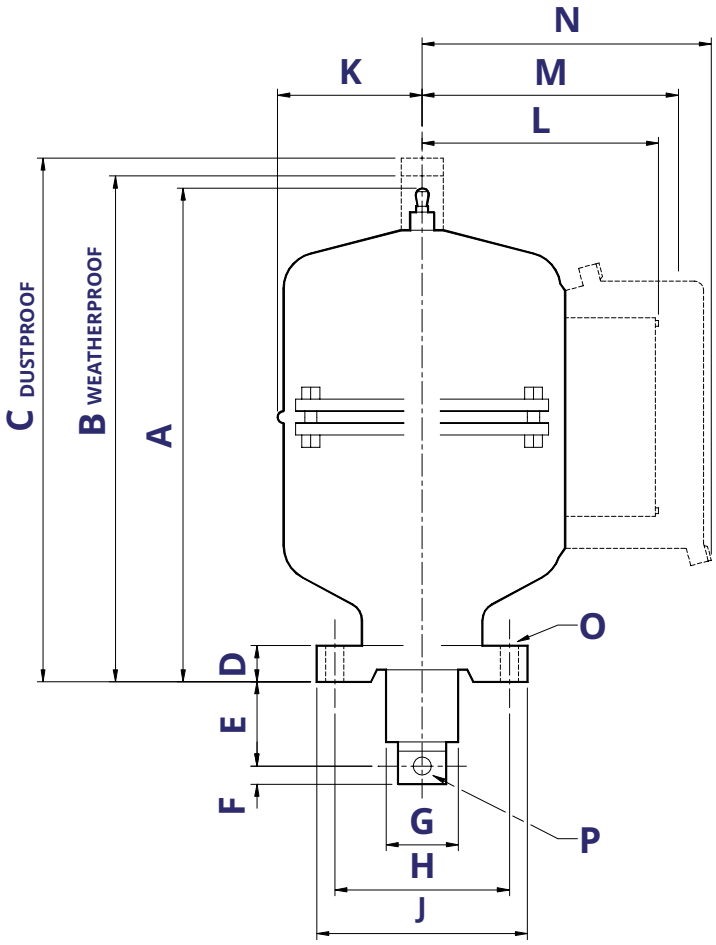
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Shunt & Series Wound DC Solenoids

DISCONTINUED — no replacement available · (up to 600V DC)

DRAWING
SWB-01.0

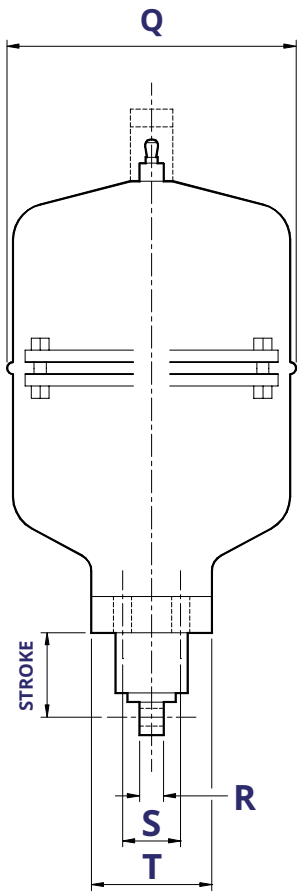


L SHUNT & LIGHT SERIES WINDING UP TO 30 AMPS

M HEAVY SERIES WINDING 31 AMPS TO 75 AMPS. BOX No. 6.

N HEAVY SERIES WINDING 76 AMPS TO 200 AMPS. BOX No. 5.

RECTIFIER EQUIPMENT AVAILABLE FOR USE ON AC SUPPLIES



Specifications

Discontinued — no replacement available

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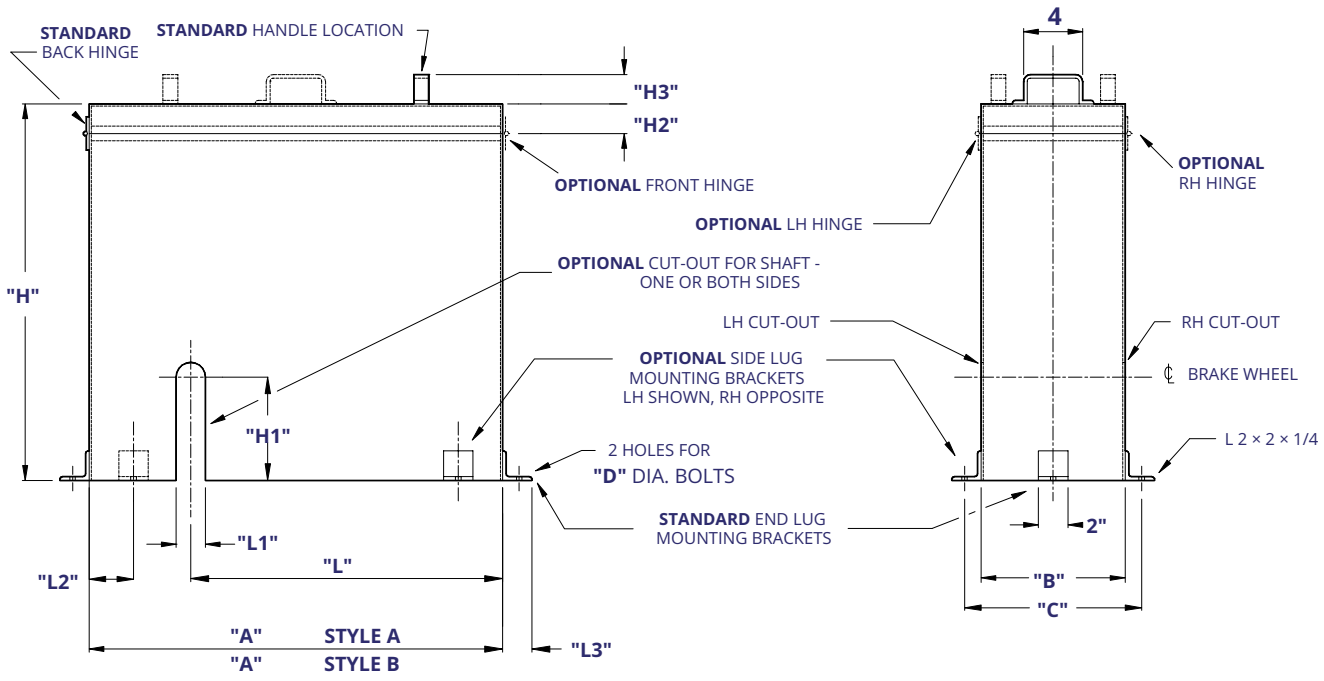
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NEMA 3R Enclosure for a SMLA Thruster Drum Brake

DRAWING
SMLAE-01.0



Specifications

Imperial (in.) as AISE

- **ENCLOSURE TYPES:**
  – STYLES A / B: FOR BRAKES WITHOUT OPTIONAL HYDRAULIC OVERRIDE/WITH HYDRAULIC OVERRIDE INSTALLED
- **STANDARD FEATURES:**
  – (a) STYLE 'A'
  – (b) MOUNTING LUGS ON ENDS
  – (c) COVER HINGE - BACK
  – (d) MAT'L - 14 GA MILD STEEL - PRIMED & PAINTED
- **OPTIONAL EXTRAS:**
  – (a) STYLE 'B'
  – (b) MOUNTING LUGS ON LH OR RH SIDES
  – (c) COVER HINGE - FRONT, LH OR RH.
  – (d) SHAFT CUT-OUT - LH, RH OR BOTH SIDES
  – (e) MAT'L - 16 GA MILD STEEL - GALVANIZED - OR 16 GA STAINLESS STEEL.
- ALL DIMENSIONS ARE IN INCHES
- 2 holes for "D" dia. bolts; standard end lug mounting brackets; L 2 × 2 × 1/4 angle

Brake code	Thruster	Drum size in	A (style A)	A (style B)	B	C	D	H	H1	H2	H3	L	L1	L2	L3
SMLA-6	-EB120	6	24.25	30	5.25	7.5	0.375	20	4.75	2	2	15.5	2	3	2
SMLA-6	-EB220	6	29	34.5	5.25	7.5	0.375	20	4.75	2	2	20	2	3	2
SMLA-8	-EB120 / -EB220 / -EB300 / -EB20	8	28.75	37.38	8.5	10.75	0.375	23.5 / 23.5 / 25.5 / 25.5	7	2	2	21.25	2	3	2
SMLA-10	-EB220	10	32.75	38.25	9	11.25	0.375	25	8.38	2	2	23.25	3	3	2
SMLA-10	-EB300	10	33.5	39	9	11.25	0.375	29.5	8.38	2	2	24.5	3	3	2
SMLA-10	-EB50	10	33.5	39	9	11.25	0.375	30.5	8.38	2	2	24.5	3	3	2
SMLA-13	-EB300 / -EB50 / -EB80	13	38	45.5	12.25	14.5	0.375	31.5	9.88	2	2	27	3	3	2
SMLA-16	-EB50 / -EB80 / -EB125	16	46.5	53.5	14.25	16.5	0.375	34.5	12.13	2	2	33	3.5	3	2
SMLA-19	-EB125 / -EB150 / -EB250	19	51.5	—	17	19.25	0.375	37	13.25	2	2	35.25	4	3	2
SMLA-23	-EB125 / -EB150 / -EB250	23	59	—	20.5	22.75	0.375	41	15.88	2	2	38.5	5.5	3	2

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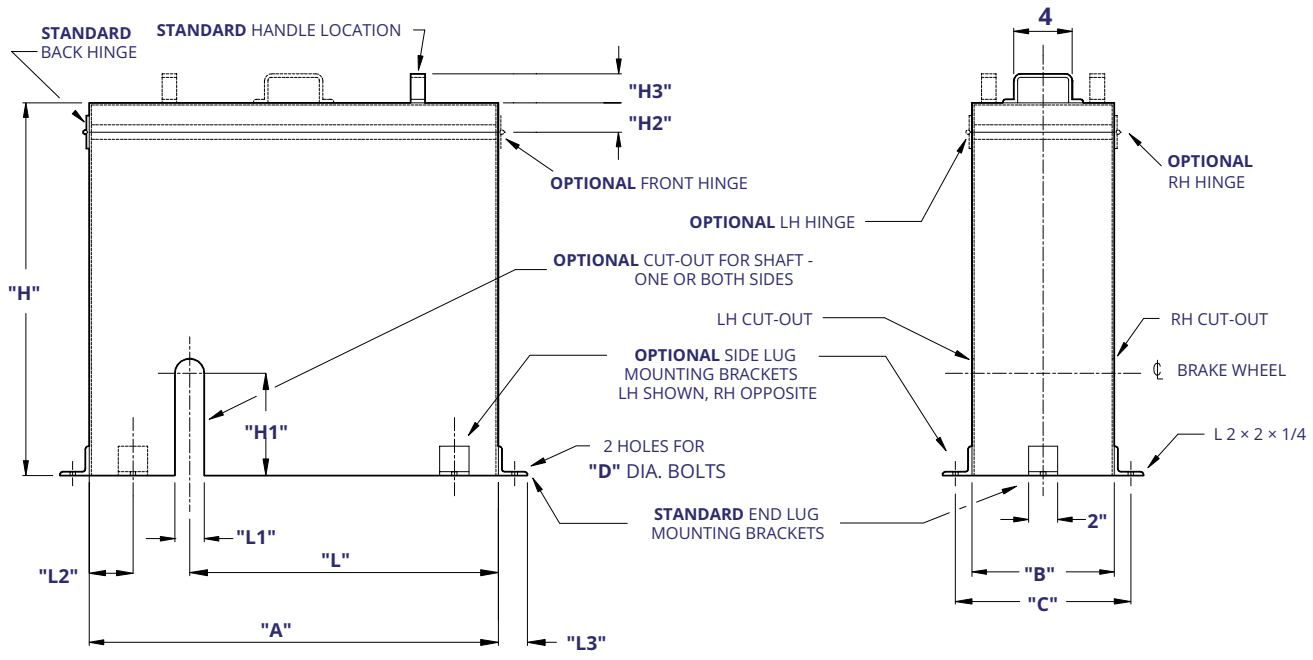
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NEMA 3R Enclosure for a SMLB Thruster Drum Brake

DRAWING
SMLBE-01.0



Specifications

Imperial (in.) as AISE

- **STANDARD FEATURES:**
  - (a) STYLE 'A'
  - (b) MOUNTING LUGS ON ENDS
  - (c) COVER HINGE - BACK
  - (d) MAT'L - 14 GA MILD STEEL - PRIMED & PAINTED
- **OPTIONAL EXTRAS:**
  - (a) STYLE 'B'
  - (b) MOUNTING LUGS ON LH OR RH SIDES
  - (c) COVER HINGE - FRONT, LH OR RH.
  - (d) SHAFT CUT-OUT - LH, RH OR BOTH SIDES
  - (e) MAT'L - 16 GA MILD STEEL - GALVANIZED - OR 16 GA STAINLESS STEEL.
- ALL DIMENSIONS ARE IN INCHES
- Enclosure styles A / B: for brakes without optional hydraulic override / with hydraulic override installed
- 2 holes for "D" dia. bolts; standard end lug mounting brackets; L 2 × 2 × 1/4 angle

Brake code	Thruster	Drum size in	A	B	C	D	H	H1	H2	H3	L	L1	L2	L3
SMLB06	-EJ023/05	6	22.5	11	13.5	0.375	17	4.724	2	2	16.25	2	3	2
SMLB08	-EJ023/05 / -EJ030/05	8	25.25	11	13.5	0.375	19 / 21.125	7.008	2	2	17.625	2	3	2
SMLB10	-EJ023/05	10	29.25	11	13.25	0.375	22	8.386	2	2	20.625	3	3	2
SMLB10	-EJ030/05	10	29.25	11	13.25	0.375	22	8.386	2	2	20.625	3	3	2
SMLB10	-EJ050/06	10	29.25	12.5	14.75	0.375	25	8.386	2	2	20.625	3	3	2
SMLB13	-EJ030/05 / -EJ050/06 / -EJ080/06	13	37.25	12.625	14.875	0.375	26.5	9.882	2	2	26.5	3	3	2
SMLB16	-EJ050/06	16	41	12.75	15	0.375	32	12.126	2	2	28.25	3.5	3	2
SMLB16	-EJ080/06	16	41	12.75	15	0.375	32	12.126	2	2	28.25	3.5	3	2
SMLB16	-EJ121/06	16	41	15	17.25	0.375	33.5	12.126	2	2	28.25	3.5	3	2
SMLB19	-EJ080/06	19	55	13	15.25	0.375	34	13.268	2	2	40	4	3	2
SMLB19	-EJ121/06	19	55	15	17.25	0.375	34	13.268	2	2	40	4	3	2
SMLB19	-EJ201/06	19	55	15	17.25	0.375	34	13.268	2	2	40	4	3	2

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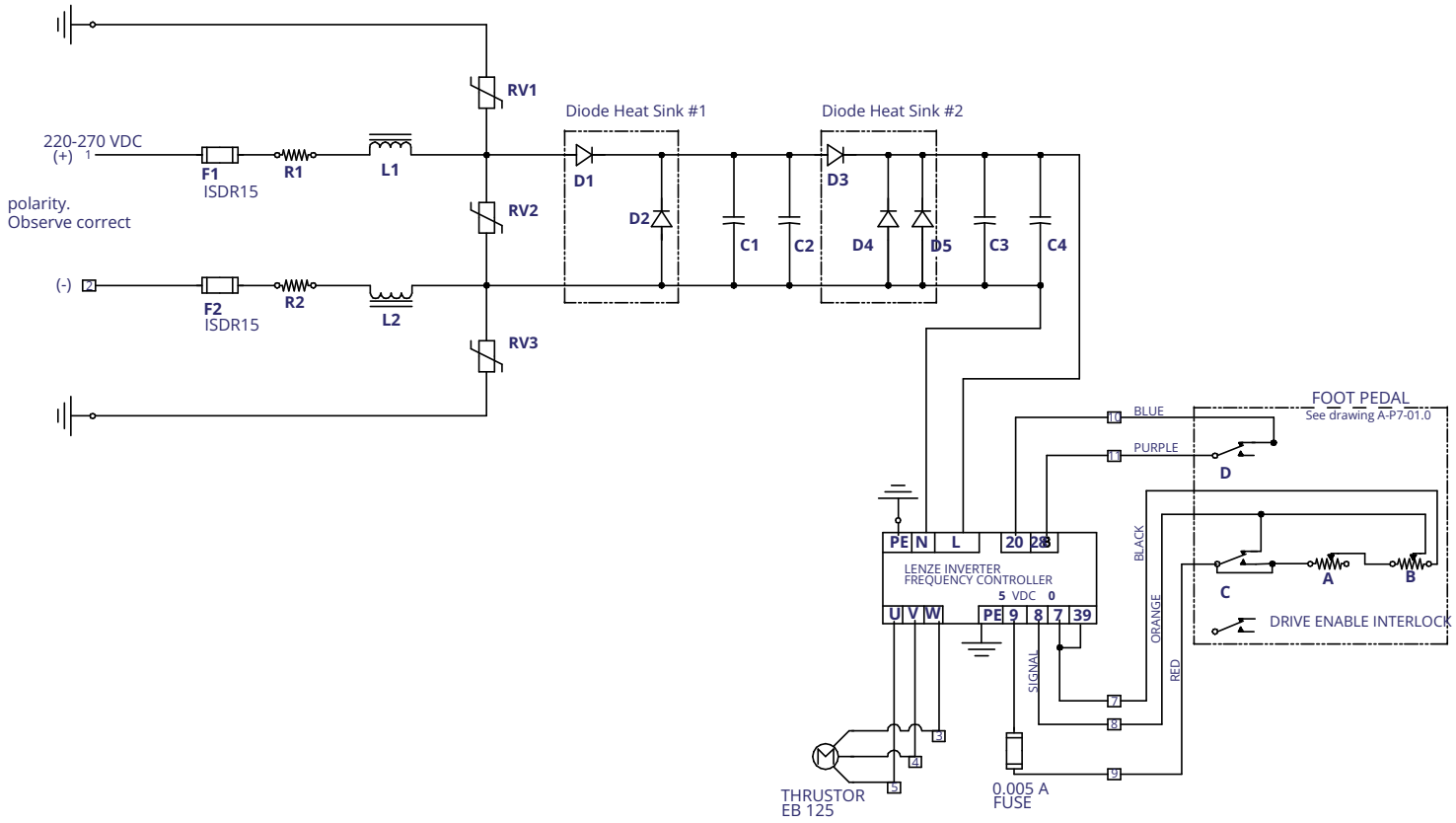
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Proportional Control — Thruster Brake

DC power or 3-phase AC input

DRAWING
ECP-01.0



Notes

- CAUTION: DIODE HEAT SINKS AND CAPACITOR TERMINALS ARE CHARGED TO 250 VDC. CHARGE CAN REMAIN FOR SEVERAL MINUTES AFTER POWER IS REMOVED.
- * THE INITIAL PEDAL MOTION SHOULD CLOSE AIR GAP AND DEVELOP A SMALL AMOUNT OF TORQUE. THE TRIM POT MAY REQUIRE ADJUSTMENT AT STARTUP.
- A* - TRIMPOT, 10,000 OHMS BOURNS 3250L-1-103
- B - CONTROL POTENTIOMETER CLAROSTAT 53CL-5000 OHMS
- C - MICRO SWITCH SWITCHES ON PEDAL MOTION.
- D - MICRO SWITCH SWITCHES AT END OF PEDAL TRAVEL

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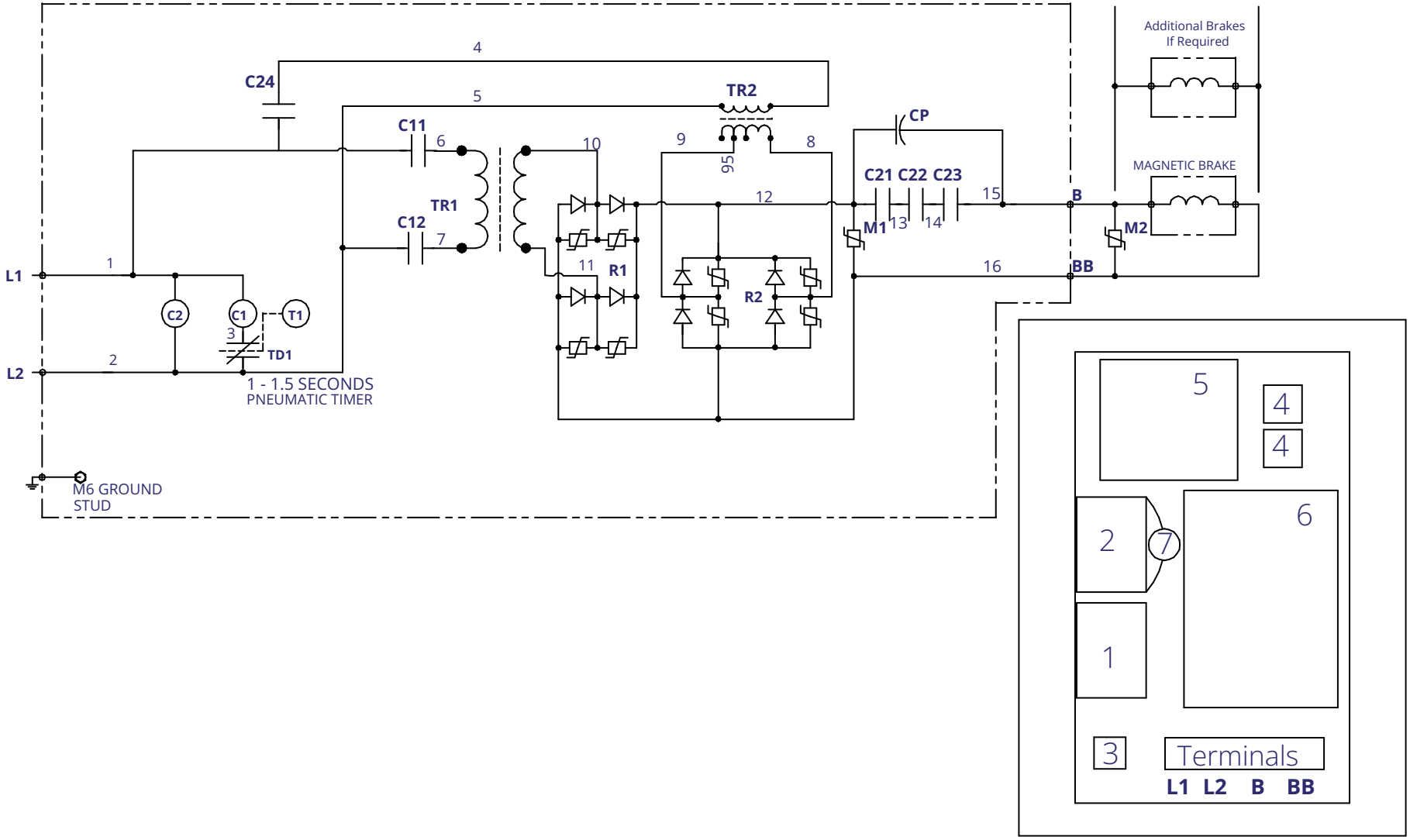
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Rectifier Control Package

DC magnetic brakes

DRAWING
RCP01-01.0



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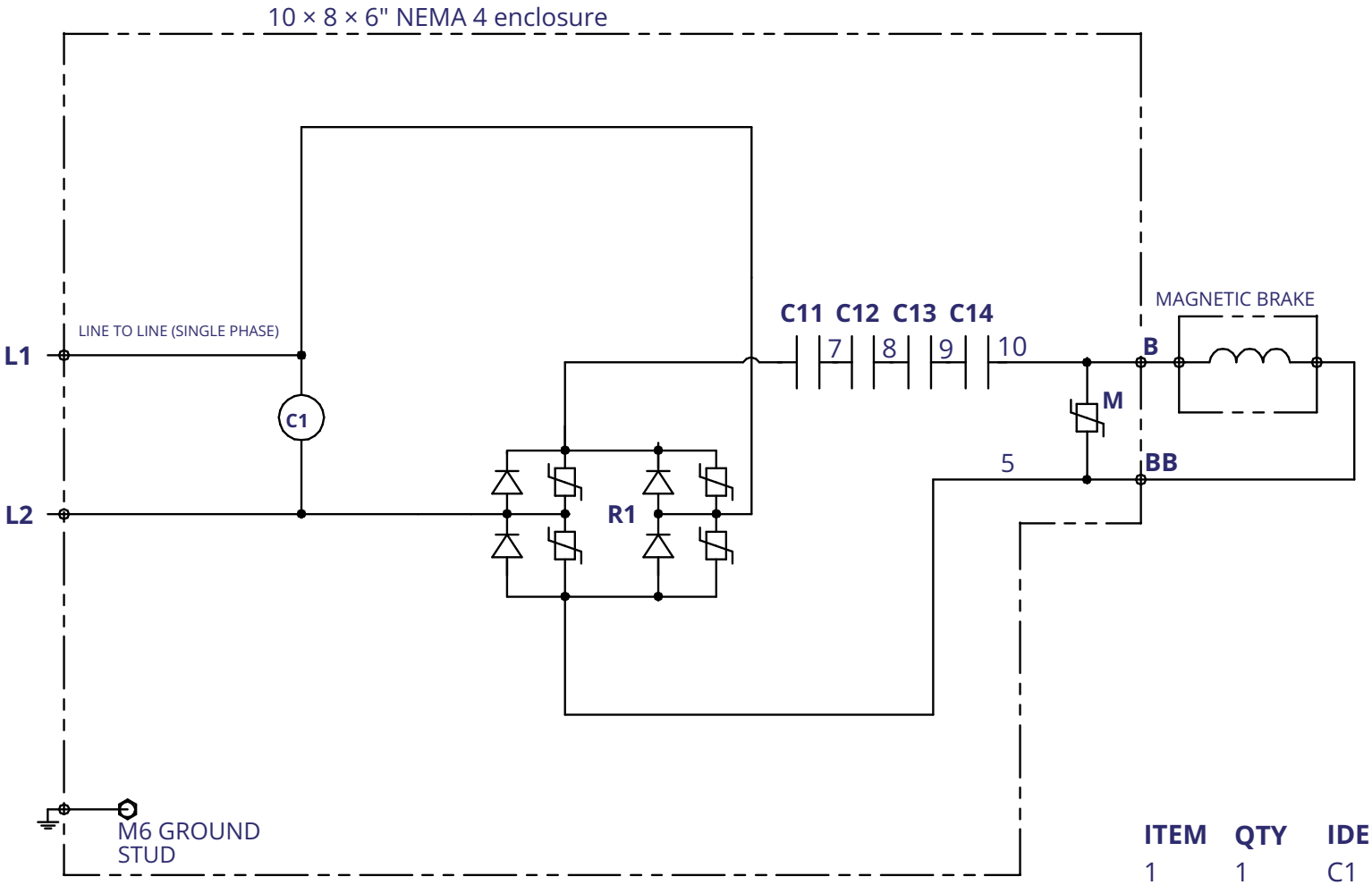
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Rectifier Circuit

Magnetic brakes

DRAWING
RCP01-01.1



ITEM	QTY	IDENT	DESCRIPTION
1	1	C1	Contactor
2	1	R1	Rectifier
3	1	M	Suppressor

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