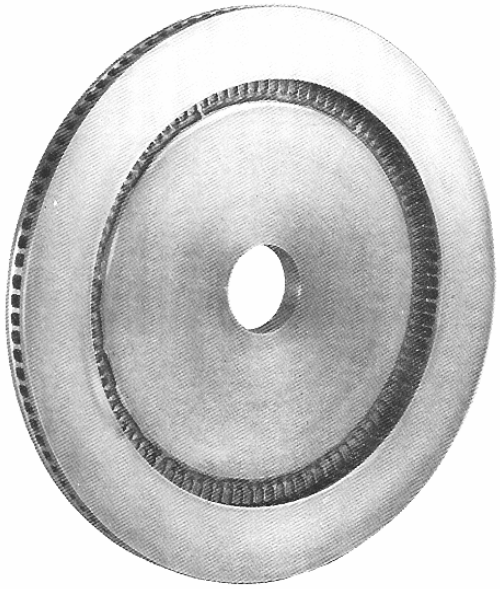
KOBELT MANUFACTURING COMPANY LIMITED

1 1/4" x 2 1/2" SERIES HEAVY DUTY BRAKE DISC

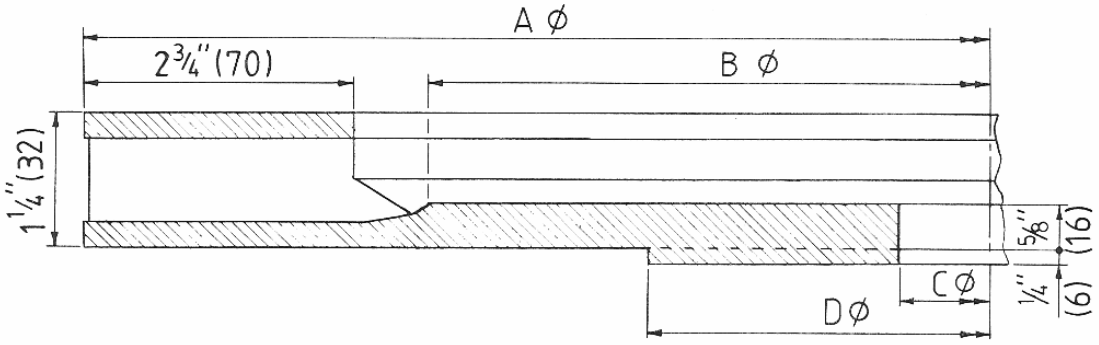


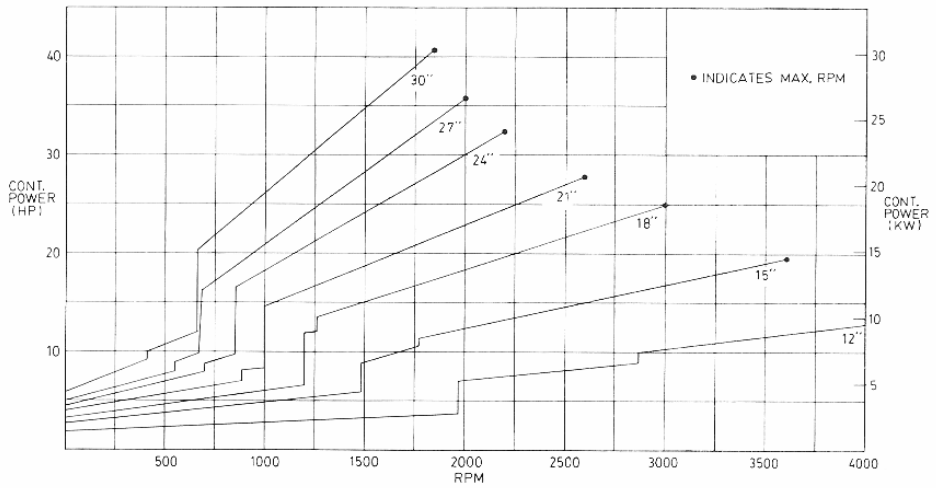
This disc series was especially designed to go with our model 5020 brake calipers, again to fit both spring and fluid applied versions. Because of the cooling fin design of these discs they can be placed into a heavy-duty energy category. The versatility of these discs is almost unlimited. These discs are usually cast in ductile iron and are also available in various other materials to suit customer specifications.

SPECIFICATIONS

A diam		B max diam		C min diam		D max diam		Max RPM	Weight		Act. Rad.		WR^2		Single Stop Energy Absorb	
inch	mm	inch	mm	inch	mm	inch	mm		lbs	Kgs	ft.	m	lb-ft²	Kg-m²	hp-sec	KJ
12	305	4.5	114	2.0	51	3.75	95	4600	19	9	0.39	0.12	2.5	0.11	1500	1100
15	381	7.5	191	2.5	64	5	127	3650	27	12	0.52	0.15	6	0.25	1900	1400
18	457	10.5	267	3.0	76	6	152	3000	37	17	0.65	0.19	12	0.51	2300	1700
21	533	13.5	343	3.5	89	9	229	2550	50	23	0.77	0.23	23	0.97	2900	2200
24	610	16.75	425	4.0	102	8	203	2250	64	29	0.89	0.27	39	1.64	3400	2500
27	686	19.5	495	4.0	102	12	305	1980	79	36	1.02	0.31	60	2.53	3700	2800
30	762	22.75	578	4.5	114	10	254	1780	99	45	1.14	0.34	94	3.96	4400	3300

Note: WR^2 and Weight may vary due to machining.





The graph above indicates the horsepower handling capacity of the brake discs in relation to various RPMs. Please note that the horsepower capacity drastically increases when the disc goes from laminar to turbulent flow. The energy indicated is based on a continuous input with a maximum disc temperature of 600°F (315°C) and does not require any stopping or brake release time. It is important to remember that disc brake installations running on a continuous power input should not exceed 700°F (370°C) disc temperature.

MAXIMUM ENERGY CAPACITY FOR A SINGLE STOP FROM CRITICAL RPM (LAMINAR FLOW)
Maximum Temperture 700°F (370°C)

Disc	Critical	1 sec		2 sec		5 sec		10sec		30sec		1min		2 min		5 min		10 min	
	rpm	hp-sec	kJ	hp-sec	kJ	hp-sec	kJ	hp-sec	kJ	hp-sec	kJ	hp-sec	kJ	hp-sec	kJ	hp-sec	kJ	hp-sec	kJ
1.25 x 2.5 x 12	1952	990	740	1405	1050	1488	1110	1500	1120	1547	1150	1622	1210	1779	1330	2210	1650	2963	2210
1.25 x 2.5 x 15	1483	1300	970	1849	1380	1881	1400	1897	1410	1962	1460	2061	1540	2274	1700	2858	2130	3860	2880
1.25 x 2.5 x 18	1196	1620	1210	2293	1710	2317	1730	2337	1740	2416	1800	2540	1890	2803	2090	3528	2630	4768	3560
1.25 x 2.5 x 21	1002	1935	1440	2737	2040	2881	2150	2905	2170	2996	2230	3135	2340	3440	2570	4265	3180	5702	4250
1.25 x 2.5 x 24	875	2250	1680	3181	2370	3401	2540	3428	2560	3535	2640	3700	2760	4058	3030	5028	3750	6736	5020
1.25 x 2.5 x 27	685	2560	1910	3624	2700	3722	2780	3748	2800	3860	2880	4033	3010	4400	3280	5401	4030	7170	5350
1.25 x 2.5 x 30	674	2877	2150	4068	3030	4449	3320	4482	3340	4619	3440	4822	3600	5263	3920	6478	4830	8634	6440

The calculations indicating disc temperature or energy capability are based on the rubbing face and the fins of the disc only. The mounting flange of the disc and the rotating element that the disc is attached to are not considered in our calculations. Also in air flow we have allowed for some restrictions because normally guards and obstructions are imposed to the air flow in most instances. Because of this, in many cases up to three times more energy can be absorbed by the disc, but since all of these items are unknown to us, we feel that we must offer the utmost in security, as far as brake performance is concerned. If specific details are available of your brake installation, we will be pleased to do a computer run and give you precise performance criterias.

If a brake disc and brake caliper are properly selected, many years of trouble-free service can be expected. Early disc failure can occur if for example a disc cycles continuously, and goes from extremely hot to cold conditions constantly, (metal fatigue). Because of these constant thermo-stresses, heat checks will occur and major cracks will appear after some time of operation. If a brake disc and brake caliper are properly selected, this can all be avoided.

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