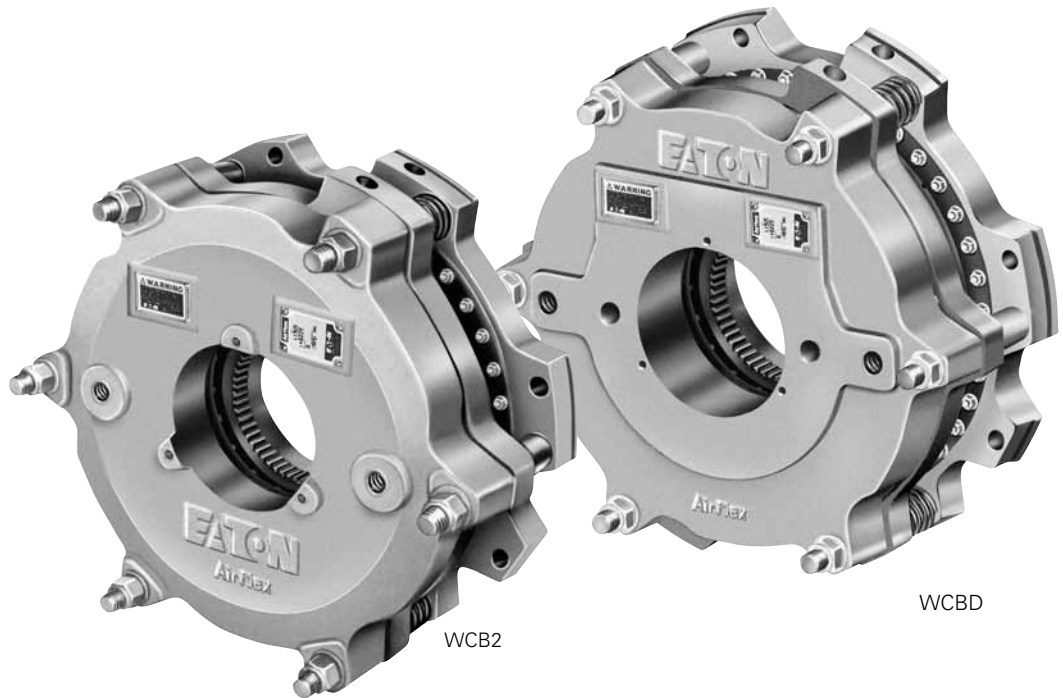


Precise controllability for  
severe, high energy or  
continuous slip applications



*Powering Business Worldwide*

# Airflex® Water Cooled Brakes WCB2 and WCBD



## WHERE USED

- Drilling rigs
- Dynamometers
- Logging equipment
- Marine mooring systems
- Slip clutches
- Tension brakes
- Unwind stands

WCB elements are disc type, externally cooled units. They are designed to absorb and dissipate the thermal loads associated with the most severe clutch and brake applications. The WCB friction couple was developed specifically for continuous slip service and has a dynamic coefficient of friction that is greater than its static coefficient of friction. Also available, special high coefficient linings, which provide 50% higher torque than standard friction linings and provide a 1:1 dynamic to static torque ratio.

Element construction and operation is illustrated in the figure on page 3. Pressurizing the cylinder causes the piston to clamp the friction disc between the water jackets. Heat generated at the friction interface is quickly transferred to the circulating coolant.

Element sizes are indicated by the number of friction discs and the disc diameter in inches. For instance, size 224WCB has two (2) friction discs 24 inches in diameter.

## Features:

### Patented piston design

Single or dual piston provides wider range of applied tension with greater control.

### Drop in powerhead package

Standard single piston elements can be retrofitted with a dual piston powerhead to provide increased control.

### Split wear spacers

The split wear spacers allow for wear adjustment without disassembly of the brake to minimize downtime and maintenance costs.

### Unique friction couple

A specially formulated friction material, interfacing with a copper alloy surface, eliminates the stick-slip characteristic associated with ordinary frictional devices.

### Rapid heat dissipation

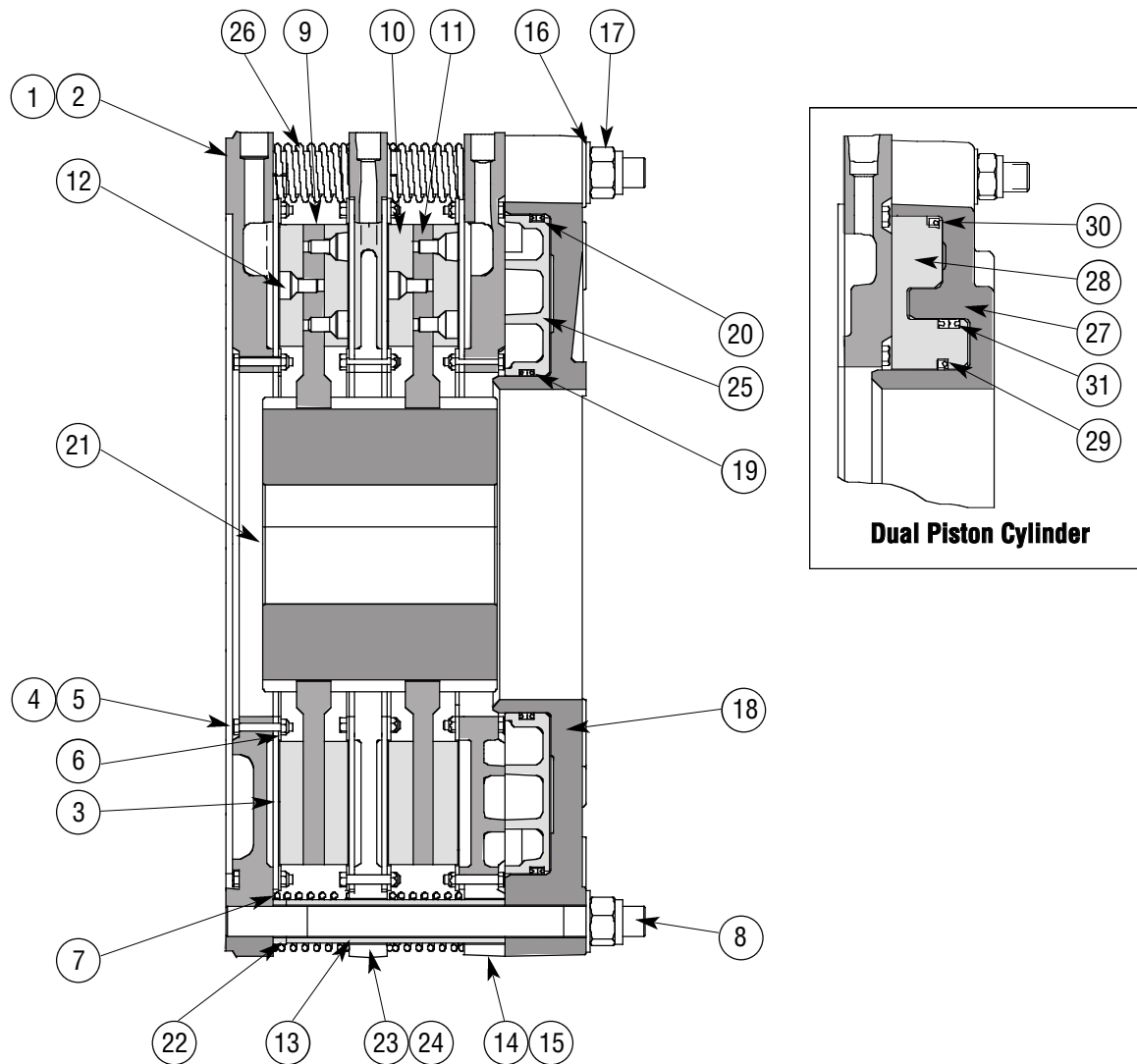
The copper interface conducts heat rapidly to the circulating coolant.

### Open or closed loop coolant systems

The element works equally well with open or closed loop circulating systems. On mobile equipment, the engine's cooling system can be tapped to provide coolant to the element.

### Optional corrosion protection

For marine environment applications, protective coatings are available to minimize corrosion.



## WCB2 & WCBD Component Parts

Item	Description
1	Mounting Flange Sub-Assembly
2	Mounting Flange
3	Wear Plate
4	Hex Head Screw
5	Locknut
6	Inner Support Ring
7	Outer Support Ring
8	Stud
9	Friction Disc Sub-Assembly
10	Friction Disc
11	Friction Disc Core
12	Flat Head Screw
13	Clamp Tube
14	Pressure Plate Sub-Assembly
15	Pressure Plate
16	Flat Washer

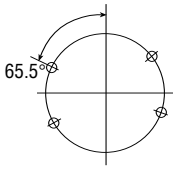
Item	Description
17	Lock Nut
18	Cylinder
19	Inner Seal
20	Outer Seal
21	Gear
22	Wear Spacer
23	Reaction Plate Sub-Assembly
24	Reaction Plate
25	Piston
26	Release Spring
27	Dual Piston Cylinder
28	Dual Piston
29	Dual Piston Inner Seal
30	Dual Piston Outer Seal
31	Dual Piston Intermediate Seal

### Note:

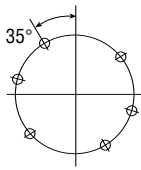
Dual disc unit shown. Other multi-disc units are similar. Items 23 and 24 are not required for single disc units.

# WCB2 & WCB3 Elements: Dimensional Data\*

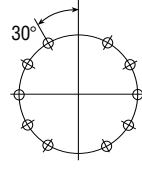
## Mounting Bolt Circles <sup>⊙</sup>



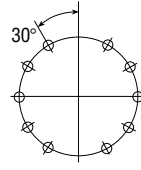
Coolant Inlet Port  
**8WCB**  
(4) 0.531 (13,5)Ø Dia.  
Mounting holes  
based on 6 equally  
spaced as shown  
on 11.125 (282,5)  
bolt circle



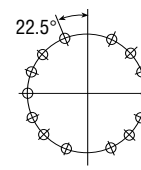
Coolant Inlet Port  
**14WCB**  
(6) 0.656 (16,7)Ø  
Dia. Mounting holes  
based on 8 equally  
spaced as shown  
on 17.500 (444,5)  
bolt circle



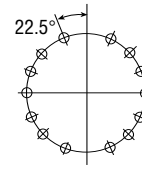
Coolant Inlet Port  
**18WCB**  
(10) 0.656 (16,75)Ø  
Dia. Mounting holes  
based on 12 equally  
spaced as shown  
on 22.000 (558,8)  
bolt circle



Coolant Inlet Port  
**24WCB**  
(10) 0.656 (16,75)Ø  
Dia. Mounting holes  
based on 12 equally  
spaced as shown  
on 28.750(730,3)  
bolt circle



Coolant Inlet Port  
**36WCB**  
(14) 1.062 (27,0)Ø  
Dia. Mounting holes  
based on 16 equally  
spaced as shown  
on 42.000 (1066,8)  
bolt circle



Coolant Inlet Port  
**48WCB**  
(14) 1.438 (36,5)Ø  
Dia. Mounting holes  
based on 16 equally  
spaced as shown  
on 54.000 (1371,6)  
bolt circle

### English Dimensions in inches

Size	D <sub>24</sub>	D <sub>25</sub>	D <sub>29</sub>	D <sub>46</sub>	D <sub>43</sub>	G <sup>⊙</sup>	No. H <sub>3</sub> <sup>⊙</sup>	Size H <sub>3</sub> <sup>⊙</sup>	Bolt Circle H <sub>3</sub> <sup>⊙</sup>	H <sub>10</sub>	H <sub>13</sub> <sup>⊙</sup>	J <sub>1</sub>	J <sub>2</sub> <sup>⊙</sup>
8WCB	0.81	1.25	0.250	⊙	2.62	12.125	8	1/2-13	10.875	4.12	8.375	3.12	12.24
14WCB	0.91	1.41	0.250	⊙	2.90	18.750	8	3/4-10	17.000	7.12	14.375	6.00	18.94
18WCB	0.93	1.47	0.250	1.25	3.14	23.25	12	3/4-10	21.750	11.00	18.250	8.50	23.86
24WCB	1.06	1.75	0.250	1.38	4.13	29.998	12	1 1/8-7	27.875	12.75	24.375	11.50	30.62
36WCB	1.52	2.58	0.280	2.38	4.97	44.498	16	1 3/8-6	41.500	16.50	18.375	16.50	44.86
48WCB	1.48	2.70	-	⊙	5.80	56.50	16	1 3/8-6	58.688	25.19	-	23.00	57.09

Size	D <sub>24</sub>	D <sub>25</sub>	D <sub>29</sub>	D <sub>46</sub>	D <sub>43</sub>	G <sup>⊙</sup>	No. H <sub>3</sub> <sup>⊙</sup>	Size H <sub>3</sub> <sup>⊙</sup>	Bolt Circle H <sub>3</sub> <sup>⊙</sup>	H <sub>10</sub>	H <sub>13</sub> <sup>⊙</sup>	J <sub>1</sub>	J <sub>2</sub> <sup>⊙</sup>
8WCB	21	32	6,4	⊙	67	308,0	8	1/2-13	276,2	106	212,7	79	311
14WCB	23	36	6,4	⊙	74	476,3	8	3/4-10	431,8	181	365,1	152	481
18WCB	24	37	6,4	32	80	590,6	12	3/4-10	552,4	279	463,5	216	606
24WCB	27	44	6,4	35	105	761,9	12	1 1/8-7	708,0	324	619,1	292	778
36WCB	39	65	7,1	60	126	1130,2	16	1 3/8-6	1054,1	419	932,1	419	1139
48WCB	38	69	-	⊙	147	1435,0	16	1 3/8-6	1490,7	640	-	584	1450

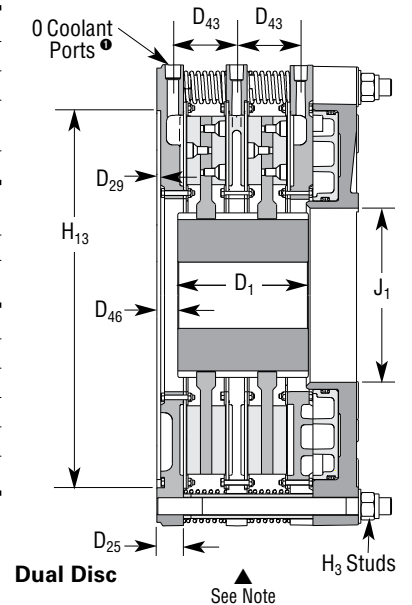
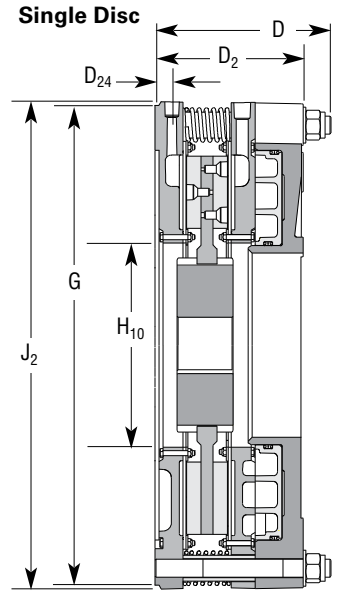
### SI Dimensions in millimeters

### English Dimensions in inches

Size	No. H <sub>4</sub>	Size H <sub>4</sub>	Bolt Circle H <sub>4</sub>	Size Single Piston O <sub>2</sub> <sup>⊙</sup>	Bolt Circle Single Piston O <sub>2</sub> <sup>⊙</sup>	Size Large Dual Piston O <sub>2</sub> <sup>⊙</sup>	Bolt Circle Large Dual Piston O <sub>2</sub> <sup>⊙</sup>	Size Small Dual Piston O <sub>2</sub> <sup>⊙</sup>	Bolt Circle Small Dual Piston O <sub>2</sub> <sup>⊙</sup>
8WCB	3	1/4-20	3.500	3/8-18	6.63	TBD	TBD	TBD	TBD
14WCB	3	3/8-16	6.500	1/2-14	11.50	1/2-14	13.250	3/8-18	8.250
18WCB	3	3/8-16	9.125	1/2-14	15.25	1/2-14	15.750	3/8-18	11.630
24WCB	6	3/8-16	12.250	1/2-14	18.50	1/2-14	20.500	3/8-18	14.500
36WCB	6	1/2-13	14.500	3/4-14	28.00	3/4-14	28.000	3/8-18	22.250
48WCB	3	3/4-10	24.500	1-11.5	41.500	1-11.5	41.500	0.5-14	31.500

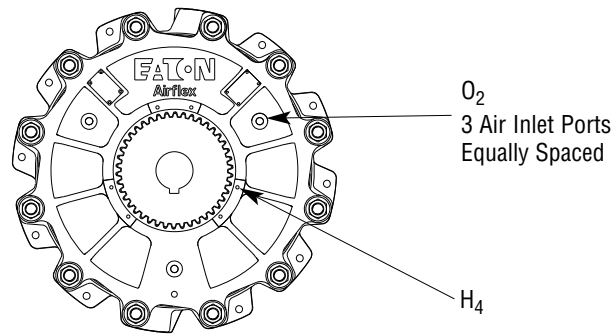
Size	No. H <sub>4</sub>	Size H <sub>4</sub>	Bolt Circle H <sub>4</sub>	Size Single Piston O <sub>2</sub> <sup>⊙</sup>	Bolt Circle Single Piston O <sub>2</sub> <sup>⊙</sup>	Size Large Dual Piston O <sub>2</sub> <sup>⊙</sup>	Bolt Circle Large Dual Piston O <sub>2</sub> <sup>⊙</sup>	Size Small Dual Piston O <sub>2</sub> <sup>⊙</sup>	Bolt Circle Small Dual Piston O <sub>2</sub> <sup>⊙</sup>
8WCB	3	1/4-20	88,9	3/8-18	168	TBD	TBD	TBD	TBD
14WCB	3	3/8-16	165,1	1/2-14	292	1/2-14	337	3/8-18	210
18WCB	3	3/8-16	231,8	1/2-14	387	1/2-14	400	3/8-18	295
24WCB	6	3/8-16	311,2	1/2-14	470	1/2-14	521	3/8-18	368
36WCB	6	1/2-13	444,5	3/4-14	711	3/4-14	711	3/8-18	565
48WCB	3	3/4-10	622,3	1-11,5	1054,1	1-11,5	1054,1	0,5-14	800

### SI Dimensions in millimeters



\* Data shown is subject to change. Please consult factory for current dimensional data.

# WCB2 & WCB2 Elements: Dimensional Data



English	Dimensions in inches						
108WCB	1.50	2.56	7.00	1.75	5.69	4	3/8-18
208WCB	1.75	2.63	9.75	4.00	8.31	6	3/8-18
308WCB	2.00	2.50	12.88	7.75	10.95	8	3/8-18
114WCB	2.25	4.50	8.00	2.88	6.59	4	1/2-14
214WCB	2.75	4.38	11.50	4.38	9.50	6	1/2-14
314WCB	2.25	4.50	16.25	8.25	12.39	8	1/2-14
118WCB	2.88	5.56	9.00	2.50	7.32	4	1/2-14
218WCB	3.63	5.63	13.00	5.63	10.66	8	1/2-14
318WCB	4.25	6.13	17.25	9.63	14.00	12	1/2-14
418WCB	4.63	6.13	21.50	12.50	17.34	16	1/2-14
124WCB	3.75	7.25	11.00	3.50	9.26	4	3/4-14
224WCB	4.63	7.38	15.50	8.63	13.31	8	3/4-14
324WCB	5.38	9.38	24.00	13.19	17.38	12	3/4-14
424WCB	6.00	9.38	28.50	16.94	21.43	16	3/4-14
136WCBEP	5.63	11.25	17.00	5.00	12.18	4	1 1/4-11 1/2
236WCBEP	6.75	11.75	20.75	9.00	17.24	8	1 1/4-11 1/2
336WCBEP	7.75	11.75	27.48	13.00	22.30	12	1 1/4-11 1/2
436WCBEP	8.50	11.75	35.00	18.00	27.39	16	1 1/4-11 1/2
148WCB	7.13	16.13	16.57	5.00	14.42	4	1 1/4-11 1/2
248WCB	8.88	16.81	23.45	11.25	20.07	8	1 1/4-11 1/2
348WCB	10.25	16.81	30.70	16.75	25.71	12	1 1/4-11 1/2
448WCB	11.25	16.81	37.70	22.50	31.36	16	1 1/4-11 1/2

### Notes:

1. Reaction plates for sizes 8 and 14WCB2/WCBD have one inlet and one outlet port located 180° apart. Sizes 18WCB2/WCBD and above have two inlet and two outlet ports located 180° apart.
2. To insure proper cooling, inlet port must be located at the six o'clock position.
3. Tolerance Sizes 8WCB thru 24WCB  
+0.000/-0.003 (+0,00/-0,08)  
36WCB +0.000/-0.005 (+0,00/-0,13)  
48WCB +0.000/-0.005 (+0,00/-0,13)
4. American National Standard for Unified Screw Threads
5. Tolerance +0.003/-0.000 in. (0,08/-0,00 mm)
6. American National Pipe Thread
7. 1.00 in (25 mm) for 108WCB  
1.38 in (35 mm) for 208WCB  
.857 in (4,8 mm) for 308WCB
8. 1.06 in (27 mm) for 114WCB & 314WCB  
1.69 in (43 mm) for 214WCB
9. Maximum bore sizes are based on 2 flat keys, allowable gear hub stresses and torque ratings at 80 psi (5,5 bar).
10. Maximum diameter of "as cast" surfaces
11. 1.96 in (50 mm) for 148WCB  
1.75 in (44 mm) for 248WCB  
1.75 in (44 mm) for 348WCB  
1.75 in (44 mm) for 448WCB

Size	Min. Max.		D	D <sub>1</sub>	D <sub>2</sub>	No. O Coolant Ports <sup>®</sup>	Size
	Bore Range <sup>®</sup>						
	Min.	Max.				No.	Size
108WCB	38	65	178	44	145	4	3/8-18
208WCB	44	67	248	102	211	6	3/8-18
308WCB	51	64	327	196	278	8	3/8-18
114WCB	57	114	203	73	167	4	1/2-14
214WCB	70	111	292	111	241	6	1/2-14
314WCB	57	114	413	210	315	8	1/2-14
118WCB	73	141	229	64	186	4	1/2-14
218WCB	92	143	330	143	271	8	1/2-14
318WCB	108	156	438	245	356	12	1/2-14
418WCB	117	156	546	318	440	16	1/2-14
124WCB	95	184	279	89	235	4	3/4-14
224WCB	117	187	394	219	338	8	3/4-14
324WCB	137	238	610	335	441	12	3/4-14
424WCB	152	238	724	430	544	16	3/4-14
136WCBEP	143	286	432	127	309	4	1 1/4-11 1/2
236WCBEP	171	298	527	229	438	8	1 1/4-11 1/2
336WCBEP	197	298	698	330	566	12	1 1/4-11 1/2
436WCBEP	216	298	889	457	696	16	1 1/4-11 1/2
148WCB	181	410	421	127	366	4	1 1/4-11 1/2
248WCB	225	427	596	286	510	8	1 1/4-11 1/2
348WCB	260	427	780	425	653	12	1 1/4-11 1/2
448WCB	286	427	780	572	797	16	1 1/4-11 1/2

### SI Dimensions in millimeters

- ▲ Some high torque applications of three or four disc elements require additional torsional support on the cylinder end of the unit. Contact your Airflex representative for more details.

# WCB2 & WCBD Elements: Technical Data

English				lb-in @ 80 psi			HP	GPM			in <sup>3</sup>					
108WCB	146455	146415	415313	5700	2900	2700	30	3	6.7E-02	0	3	20	2	11	2	10
208WCB	146456	146416	415314	11400	5900	5400	60	6	1.7E-0212	0	7	24	4	12	3	11
308WCB	146457	146417	416457	17100	8900	8100	90	9	7.4E-02	0	10	27	5	14	5	13
114WCB	146458	146418	415454	21500	16000	5400	60	6	2.4E-02	0	13	64	10	48	3	16
214WCB	146459	146419	415302	43000	32100	10800	120	12	6.0E-03	0	27	77	20	58	7	19
314WCB	146460	146420	416303	64500	48200	16300	180	18	2.6E-03	0	40	90	30	68	10	23
118WCB	146461	146421	302813	48800	36400	12300	120	12	1.9E-02	1.9E-01	17	124	13	93	4	31
218WCB	146462	146422	302907	97600	72900	24600	240	24	4.7E-03	9.5E-02	34	141	26	105	9	36
318WCB	146463	146423	413208	146400	109400	37000	360	36	2.1E-03	6.3E-02	51	158	38	118	13	40
418WCB	146464	146424	414111	195200	145800	49300	480	48	1.2E-03	4.8E-02	68	175	51	131	17	44
124WCB	146465	146425	411672	100000	72000	27000	270	27	4.3E-03	1.2E-01	31	204	23	148	9	56
224WCB	146466	146426	410970	200000	145000	54000	540	54	1.1E-03	6.1E-02	62	235	45	170	17	64
324WCB	146467	146427	412433	300000	217000	82000	810	81	4.8E-04	4.1E-02	93	266	68	193	26	73
424WCB	146468	146428	413195	400000	290000	109000	1080	108	2.7E-04	3.0E-02	124	297	90	215	34	82
136WCBEP	146535	146534	416538	295000	223000	71000	780	78	1.2E-03	8.9E-02	98	441	74	334	24	107
236WCBEP	146536	146538	416536	590000	446000	143000	1560	156	2.8E-04	5.8E-02	196	539	148	408	47	131
336WCBEP	146540	146542	416535	885000	670000	214000	2340	234	1.2E-04	3.9E-02	294	637	223	482	71	154
436WCBEP	146545	146547	416537	1180000	893000	286000	3120	312	6.9E-05	2.9E-02	392	734	297	556	95	178
148WCB	146473	146432	416794	686000	508000	178000	1300	130	1.1E-03	4.6E-02	221	574	163	425	57	149
248WCB	146474	146433	416795	1372000	1016000	356000	2600	260	2.3E-04	3.6E-02	441	795	327	589	115	206
348WCB	146475	146434	416688	2058000	1524000	534000	3900	390	1.0E-04	2.4E-02	662	1016	490	752	172	264
448WCB	146476	146435	416797	2744000	2032000	712000	5200	520	5.6E-05	1.8E-02	883	1236	654	915	229	321

Size	Part Number <sup>Ⓢ</sup>		Gear Part Number	Torque Rating Mr <sup>Ⓢ</sup>			Thermal <sup>Ⓢ</sup> Rating	Water Flow <sup>Ⓢ</sup>	Pressure Drop <sup>Ⓢ</sup> Coefficient		New	Worn	New	Worn	New	Worn		
	WCB2 Single Piston	WCBD Dual Piston		Single Piston or both Pistons Together	Dual Piston				Engaging Volume <sup>Ⓢ</sup>		C1	C2	Single Piston or both Pistons Together		Dual Piston		New	Worn
					Large Piston Only	Small Piston Only			Large Piston Only	Small Piston Only								
	Worn	Worn		Worn	Worn													
108WCB	146455	146415	415313	644	328	305	22,4	11,4	3,2E-04	0	0,05	0,33	0,03	0,18	0,03	0,16		
208WCB	146456	146416	415314	1288	667	610	44,7	22,7	8,2E-05	0	0,11	0,39	0,07	0,20	0,05	0,18		
308WCB	146457	146417	416457	1932	1006	915	67,2	34,2	7,4E-03	0	0,16	0,44	0,08	0,23	0,08	0,21		
114WCB	146458	146418	415454	2429	1808	610	44,7	22,7	1,2E-04	0	0,21	1,05	0,16	0,79	0,05	0,26		
214WCB	146459	146419	41530	4858	3627	1220	89,5	45,4	2,9E-05	0	0,44	1,26	0,33	0,95	0,11	0,31		
314WCB	146460	146420	416303	7288	5446	1842	134,4	68,4	2,6E-03	0	0,66	1,48	0,49	1,11	0,16	0,38		
118WCB	146461	146421	302813	5514	4113	1390	89,5	45,4	9,1E-05	3,5E-03	0,28	2,03	0,21	1,52	0,07	0,51		
218WCB	146462	146422	302907	11027	8237	2779	179,0	90,9	2,3E-05	1,7E-03	0,56	2,31	0,43	1,72	0,15	0,59		
318WCB	146463	146423	413208	16541	12361	4180	268	136	1,0E-05	1,2E-03	0,84	2,59	0,62	1,93	0,21	0,66		
418WCB	146464	146424	414111	22055	16473	5570	358	182	5,7E-06	8,7E-04	1,11	2,87	0,84	2,15	0,28	0,72		
124WCB	146465	146425	411672	11298	8135	3051	201,3	102,2	2,1E-05	2,2E-03	0,51	3,34	0,38	2,43	0,15	0,92		
224WCB	146466	146426	410970	22597	16383	6101	402,7	204,4	5,2E-06	1,1E-03	1,02	3,85	0,74	2,79	0,28	1,05		
324WCB	146467	146427	412433	33895	24518	9265	604	307	2,3E-06	7,4E-04	1,52	4,36	1,11	3,16	0,43	1,20		
424WCB	146468	146428	413195	45194	32766	12315	805	409	1,3E-06	5,6E-04	2,03	4,87	1,48	3,52	0,56	1,34		
136WCBEP	146535	146534	416538	33331	25196	8022	581,6	295,3	5,7E-06	1,6E-03	1,61	7,23	1,21	5,47	0,39	1,75		
236WCBEP	146536	146538	416536	66661	50391	16157	1163,3	590,5	1,3E-06	1,1E-03	3,21	8,83	2,43	6,69	0,77	2,15		
336WCBEP	146540	146542	416535	99992	75700	24179	1744,9	885,8	5,9E-07	7,1E-04	4,82	10,44	3,657	7,90	1,16	2,52		
436WCBEP	146545	146547	416537	133322	100895	32314	2326,6	1181	3,3E-07	5,3E-04	6,42	12,03	4,87	9,11	1,56	2,92		
148WCB	146473	146432	416794	77508	57396	20111	696	4921	5,2E-06	8,4E-04	3,62	9,41	2,67	6,97	0,93	2,44		
248WCB	146474	146433	416795	155015	114793	40223	1939	9840	1,1E-06	6,5E-04	7,23	13,03	5,36	9,65	1,88	3,38		
348WCB	146475	146434	416688	232523	172189	60334	2908	14763	4,8E-07	4,4E-04	10,85	16,65	8,03	12,33	2,82	4,33		
448WCB	146476	146435	416797	310030	229585	80445	3878	19684	2,7E-05	3,3E-03	14,47	20,26	10,72	15,00	3,75	5,26		

SI	Nm @ 5,5 bar			kW	dm <sup>3</sup> /min			dm <sup>3</sup>
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**Notes:**

- Basic part number only. Order gear separately.
  - Exact torque rating is dependent upon applied pressure. Maximum allowable pressure is 150 psi (10,3 bar).
  - Based on a 70°F (21°) fresh water inlet temperature and a maximum 50°F (28°C) rise between inlet and outlet. The maximum allowable outlet temperatures are 150°F (65°C) for fresh water; 165°F (74°C) for 70/30 and 60/40 water glycol mixes; and 170°F (77°C) for 50/50 water glycol mixes. See detailed cooling requirements in the WCB11070 IOM, section 2.4.
  - To insure proper cooling, inlet port must be at the six o'clock position. Flow rates shown are for fresh water, flow rates for water glycol mixes must increase to achieve the ratings in the Thermal Rating column. See detailed cooling requirements in the WCB11070 IOM, section 2.4.
- Sizes 8-24:  
Maximum allowable inlet pressure — 65 psi
- Sizes 36-48:  
Maximum allowable inlet pressure — 60 psi  
Maximum allowable outlet pressure — 20 psi

# WCB2 & WCB3 Elements: Technical Data

English	rpm		lb		in		lb-ft <sup>2</sup>		in <sup>3</sup>	
108WCB	2150	3400	61	19	3.17	2.05	9	0.8	12	10
208WCB	2150	3400	82	39	4.44	3.38	12	1.5	24	20
308WCB	2150	3400	120	59	5.55	4.55	15	2.33	36	30
114WCB	1260	2100	217	48	3.69	2.42	64	6.4	40	29
214WCB	1260	2100	284	86	5.26	3.83	83	12.6	75	58
314WCB	1260	2100	366	141	6.95	5.23	102	19.5	120	87
118WCB	955	1600	284	91	4.0	2.6	170	20	65	54
218WCB	955	1600	332	210	5.5	4.2	220	40	125	108
318WCB	955	1600	375	260	7.4	6.2	270	60	185	162
418WCB	955	1600	665	383	10	7.6	320	80	245	216
124WCB	715	1200	445	208	5.2	3.3	622	78	160	126
224WCB	715	1200	795	387	7.6	5.7	822	158	320	252
324WCB	715	1200	1000	583	10	8	1022	238	480	378
424WCB	715	1200	1180	767	12.4	10.1	1222	318	640	504
136WCB	475	700	2650	470	6.9	4.3	4922	324	600	337
236WCB	475	700	3250	855	9.5	6.8	6323	667	1135	673
336WCB	475	700	4350	1240	12.11	9.2	7724	1010	1670	1009
436WCB	475	700	5300	1655	14.67	11.8	9125	1353	2205	1345
148WCB	360	600	3694	796	7.86	4.46	12024	1463	700	273
248WCB	360	600	5035	1592	10.69	7.31	16205	2958	1400	546
348WCB	360	600	6378	2383	13.53	10.11	20398	4434	2100	818
448WCB	360	600	7719	3186	16.37	12.95	24583	5916	2800	1091

Size	Maximum Slip Speed <sup>®</sup>	Maximum Freewheeling Speed <sup>®</sup>	Weight		Center of Gravity <sup>®</sup>		Wk <sup>2</sup>		Water Volume	Lining Wear Volume
			Housing Mass	Disc & Gear	Housing	Disc & Gear	Housing	Disc & Gear		
108WCB	2150	3400	28	9	81	52	0,38	0,3	0,2	0,2
208WCB	2150	3400	37	17	113	86	0,51	0,6	0,4	0,3
308WCB	2150	3400	54	27	141	116	0,64	0,04	0,6	0,4
114WCB	1260	2100	98	22	94	61	2,70	0,27	0,7	0,5
214WCB	1260	2100	129	39	134	97	3,50	0,53	1,2	1,0
314WCB	1260	2100	166	64	177	133	4,30	0,82	2,0	1,5
118WCB	955	1600	129	41	102	66	7,16	0,84	1,1	0,9
218WCB	955	1600	150	95	140	107	9,27	1,69	2,1	1,8
318WCB	955	1600	170	118	188	157	11,38	2,53	3,0	2,7
418WCB	955	1600	302	174	254	193	13,48	3,37	4,0	3,5
124WCB	715	1200	202	94	132	84	26,21	3,29	2,6	2,1
224WCB	715	1200	360	175	193	145	34,64	6,66	5,3	4,1
324WCB	715	1200	453	264	254	203	43,07	10,03	7,9	6,2
424WCB	715	1200	534	347	315	257	51,50	13,40	10,5	8,3
136WCB	475	700	1202	213	109	2,2	207,41	13,65	9,9	5,5
236WCB	475	700	1474	388	241	173	266,45	28,11	18,6	11,1
336WCB	475	700	1973	562	308	234	325,49	42,56	27,4	16,6
436WCB	475	700	2404	751	373	300	384,53	57,02	36,2	22,1
148WCB	360	600	1676	361	200	113	506,70	61,65	11,5	4,5
248WCB	360	600	2284	722	272	186	682,89	124,65	22,9	8,9
348WCB	360	600	2893	1081	344	257	859,59	186,85	34,4	13,4
448WCB	360	600	3501	1445	416	329	1035,95	249,31	45,9	17,9

SI	rpm	kg		mm	kg-m <sup>2</sup>		dm <sup>3</sup>	
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**Notes:**

- 5. Based upon a continuous slip velocity of 4500 fpm (22,9 mps).
- 6. Maximum freewheeling velocity is 7500 fpm (38,1 mps).
- 7. Located from mounting flange surface.
- 8. Absolute volume of cylinder at contact with new and worn friction discs.
- 9. Pressure drop coefficient based on maximum pressure drop across brake.  
Pressure Drop =  $C_1 \times \text{Flow}^2 + C_2 \times \text{Flow}$

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