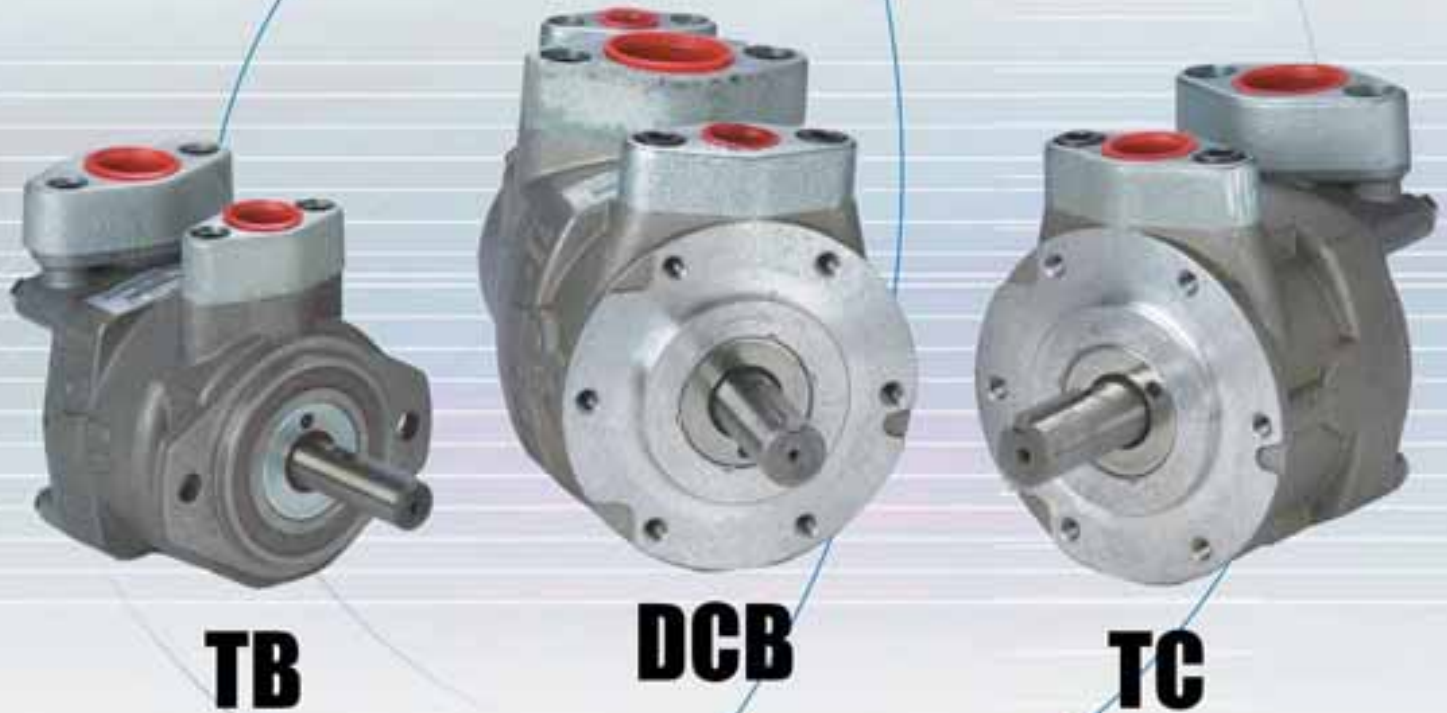


Gresen Vane Pumps

**The Industry Standard
Just Got Better**



Product Information Guide



CRS SERVICE, INC.

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Product Overview

Proven performance.

Gresen pumps have been an hydraulics industry workhorse for many years and are built to stand up to the toughest operating environments. They combine the efficiency of a fixed volume, hydraulically balanced vane pump with a light weight, weather resistant, aluminum housing and the lowest cost per cubic inch displacement in the industry. With displacements ranging from .577 to 4.62 cubic inch per revolution and continuous operating pressures up to 1500 pounds per square inch, Gresen pumps are ideal for a wide variety of applications.

Proudly manufactured in Michigan.

CRS Service, Inc. is the proud manufacturer of Gresen brand vane pumps. Since 2003, Gresen pumps have been machined, assembled and tested by CRS Services, Incorporated, at the company's Rochester Hills, Michigan facility.

Since its introduction into the CRS family, Gresen pumps have undergone numerous changes resulting and seen resulting improvements in over-all efficiency, quality and durability. For example, pulsation during operation has been reduced by nearly 30%, which translates into longer life in your application of choice and allows us to back every Gresen pump with an industry leading, 24-month limited warranty.



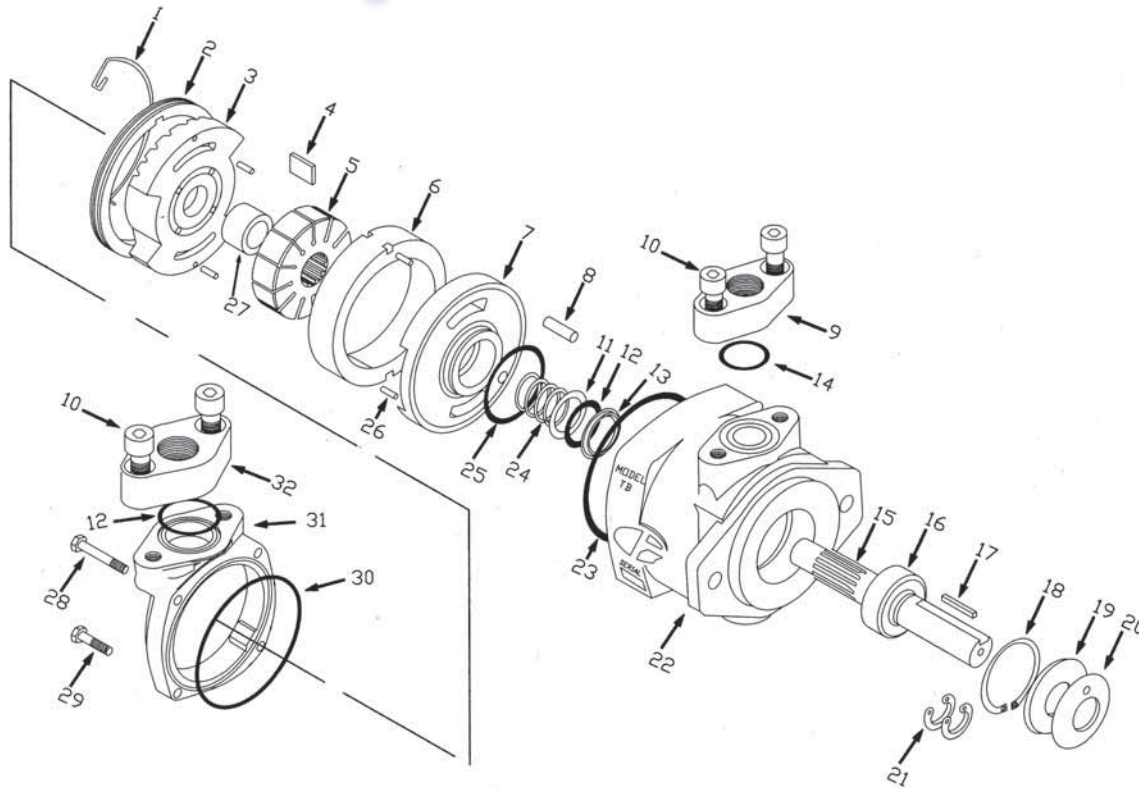
"CRS uses only quality American made castings."

From a service standpoint, all CRS manufactured components are directly interchangeable with the Gresen pump field population which means that replacement parts for your hoist, fishing boat, paver or fork lift are never more than a phone call away.

CRS: Industry-leading quality and service.

Since 1968, CRS Service, Inc. has been serving industry with cost-effective, on-time delivery of reliable parts and components for hydraulic applications. Our experienced staff of engineering, machining, assembly and test personnel are committed to ensuring timely delivery of the highest quality components at extremely competitive pricing. CRS components are directly interchangeable with most manufacturers and, in many cases, can be shipped the same day for next day delivery (as required).

Model TB Vane Pump

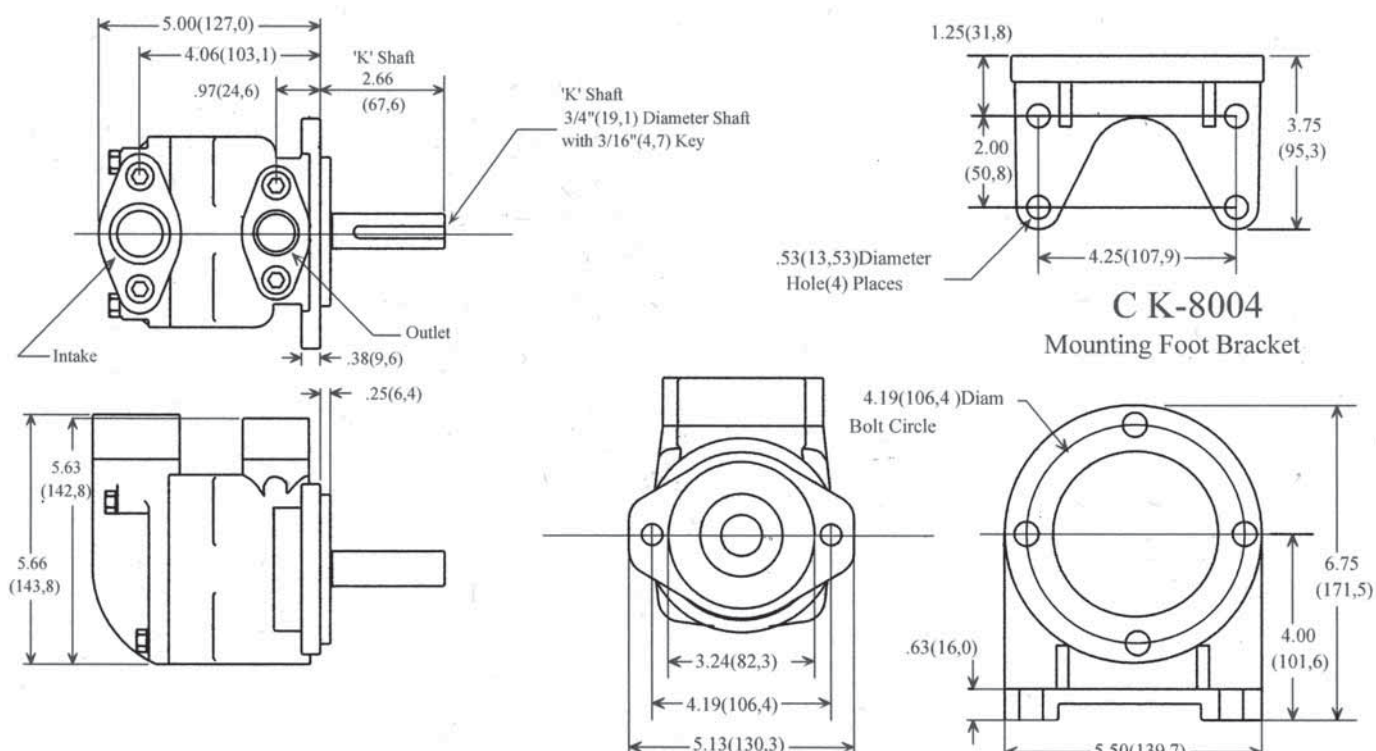


TB Part List

Item No.	Part No.	Description	Qty	Item No.	Part No.	Description	Qty
	CK-TB-03	Cartridge Kit, 3 GPM		13	1049-001	Ring, Slip	1
	CK-TB-06	Cartridge Kit, 6 GPM		14	2836-001	O-ring, Outlet Flange Seal	1
	CK-TB-09	Cartridge Kit, 9 GPM		15	1010-001	Shaft, Drive, 3/4 Inch Keyed Symbol "K"	1
	CK-TB-12	Cartridge Kit, 12 GPM (Contains cam-ring, rotor & vanes, items 4, 5 & 6)		16	1007-001	Bearing, Shaft	1
	K-8002-B	Bearing & Seal Kit (Contains items 11-14, 16, 19-21, 23, 25 & 30)		17	1034-001	Key, For No. 1010-001 Shaft	1
	K-8003	Complete Cover Kit (Contains items 12 & 28-31)		18	1017-001	Snap Ring, Bearing Housing	1
1	3342-001	Wire, Locking	1	19	1042-001	Washer, Leather	1
2	3341-001	Ring, Threaded	1	20	1041-001	Retainer, Dust Shield	1
3	K-8005	Superceded by:		21	0602-001	Ring, Retainer	2
	7280-001	End Plate, Inlet, (includes Items No. 26 & 27)	1	22	1000-001	Housing, Pump	1
4	1011-001	Vane	12	23	1021-001	Seal, Outlet Plate	1
5	1002-001	Rotor	1	24	2546-001	Spring, Slip Ring	1
6	1003-002	Cam-ring, 3 GPM	1	25	1031-001	O-ring, Outlet Plate	1
	1006-002	Cam-ring, 6 GPM	1	26	1036-001	Stop Pin, Reversing	4
	1009-002	Cam-ring, 9 GPM	1	27	1008-001	Bearing, Pilot, included in 7280-001	1
	1012-002	Cam-ring, 12 GPM	1	28	3732-061	Screw, Hex Head, 5/16 x 1-5/8 inches long	2
7	K-8006	Superceded by:		29	3732-058	Screw, Hex Head, 5/16 x 1 inches long	2
	7281-001	End Plate, Outlet, (Includes Item No. 26)	1	30	1022-001	Seal, Inlet Plate	1
8	1028-001	Locking Pin, Outlet Plate	1	31	1001-001	Cover, Inlet	1
9	1023-001	Flange, Outlet, 3/8-18 NPTF	1	32	0861-003	Flange, Inlet, 3/4-14 NPTF	1
	1023-002	Flange, Outlet, 1/2-14 NPTF	1		0861-004	Flange, Inlet, 1-11-1/2 NPTF	1
	1023-003	Flange, Outlet, 3/4-14 NPTF	1	33	1075-001	Shaft, Stub (Optional) 3/4 Inch Keyed, Symbol "R"	1
10	3731-198	Bolt, Flange	4	34	0265-001	Key, Woodruff, for No. 1075-001 Shaft	1
11	1015-001	Washer, Slip Ring	2	35	K-TB-FM	Foot Mount, (not shown)	1
12	0860-001	O-ring, Internal Flange & Slip Ring	2				

Model TB Vane Pump

Model TB Dimensional View



Model TB Number Designation

TB	12	100	50	K	CW
Pump Series	Pump Size	Inlet Port	Outlet Port	Input Shaft	Rotation

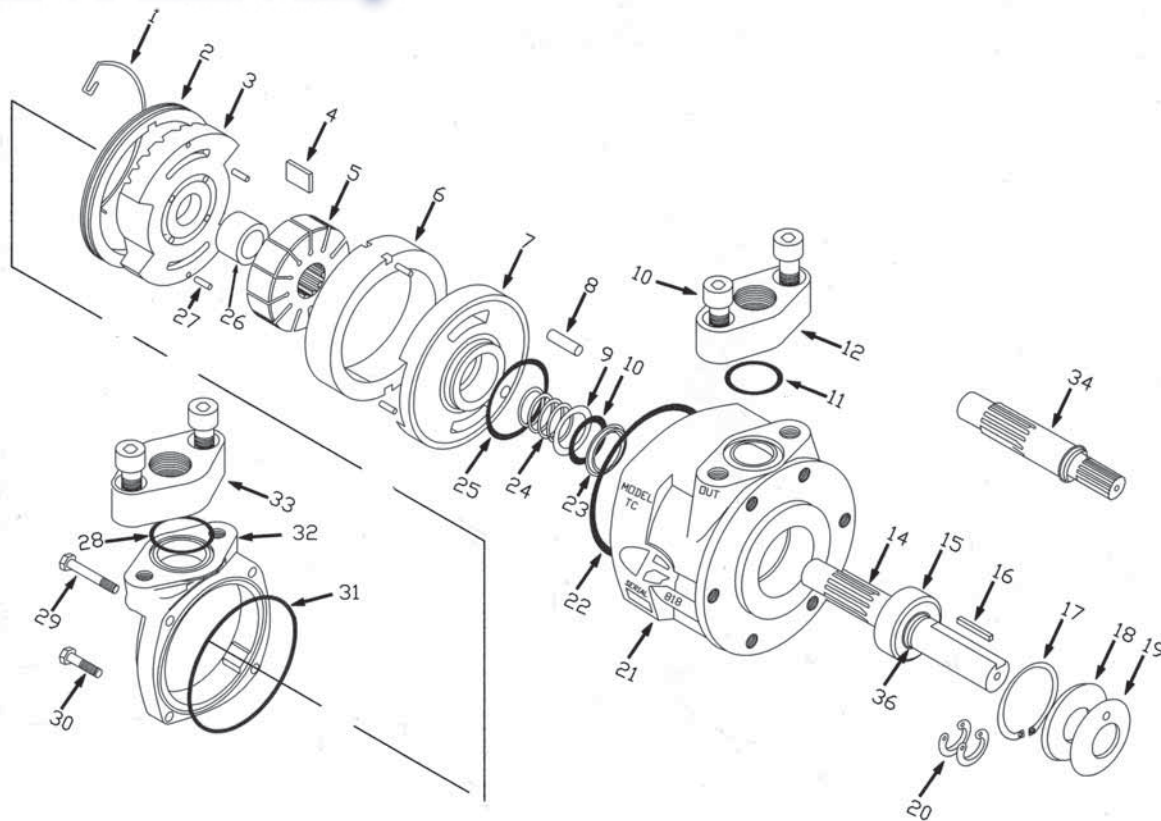
Model TB Options

Option	Description
Pump Size	Output at 1500 PSI (103 Bar) & 1500 RPM *
3	3 GPM (11,4 lpm)
6	6 GPM (26,6 lpm)
9	9 GPM (41,8 lpm)
12	12 GPM (53,2 lpm)
Inlet Port	Pump Inlet/Suction Port
75	3/4 Inch NPT Flange
100	1 Inch NPT Flange (For Over 20 GPM, 76 lpm)
Outlet Port	Pump Outlet/Pressure Port
50	1/2 Inch NPT Flange
75	3/4 Inch NPT Flange (For Over 20 GPM, 76 lpm)

Option	Description
Shafts	Pump Input Shaft
K	3/4 Inch Diameter with 3/16 Inch Keyway
Rotation	Pump Rotation (As Viewed From Shaft End)
CW	Clockwise
CCW	Counter Clockwise

*Typical Pump Outputs with oil temperature at 100 degrees F (37,7 degrees C) and a viscosity of 150 SSU.

Model TC Vane Pump

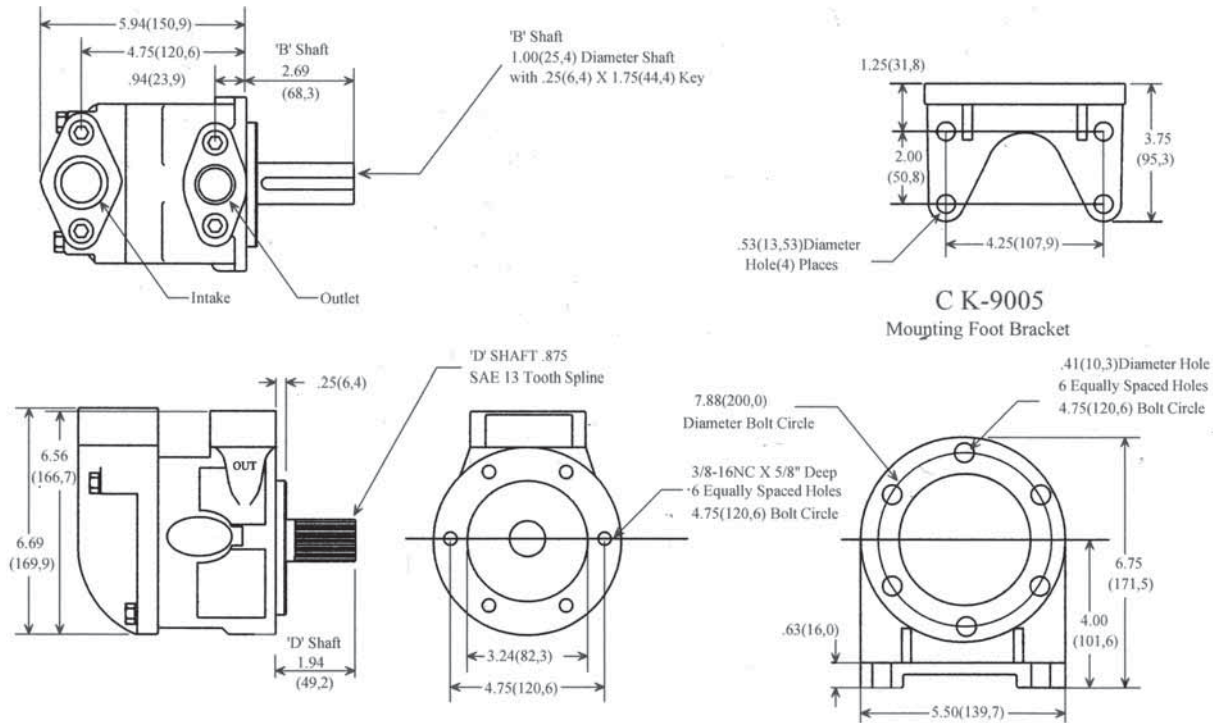


TC Part List

Item No.	Part No.	Description	Qty	Item No.	Part No.	Description	Qty
	CK-TC-12	Cartridge Kit, 12 GPM		13	3731-294	Bolt, Flange	4
	CK-TC-16	Cartridge Kit, 16 GPM		14	0831-001	Shaft, 1 inch Keyed, Symbol "B"	1
	CK-TC-20	Cartridge Kit, 20 GPM		15	0847-001	Bearing, Shaft	1
	CK-TC-24	Cartridge Kit, 24 GPM		16	0868-001	Key, For No. 0831-001 Shaft	1
		(Contains cam-ring, rotor & vanes, items 4, 5 & 6)		17	0841-001	Snap Ring, Bearing Housing	1
	K-9003-F	Bearing & Seal Kit (Contains items 9-11, 15, 18-20, 22-23, 25, 28, 31, 36)		18	0885-001	Washer, Leather	1
	K-9004	Complete Cover Kit (Contains items 28-32)		19	0884-001	Retainer, Dust Shield	1
1	3342-001	Wire, Locking	1	20	0842-001	Ring, Retainer, Bearing Shaft	2
2	3340-001	Ring, Threaded	1	21	0818-001	Housing, Pump	1
3	K-9007-A	Supersced by:		22	0816-001	Seal, Outlet Plate	1
	7282-001	End Plate, Inlet, (Includes items 26 & 27)	1	23	0872-001	Ring, Slip	1
4	1018-001	Vane	12	24	0838-001	Spring, Slip Ring	1
5	0835-001	Rotor	1	25	0815-001	Seal, Outlet Plate	1
6	0855-002	Cam-ring, 12 GPM	1	26	1008-001	Bearing, Pilot, included in 7282-001	1
	0856-002	Cam-ring, 16 GPM	1	27	0888-001	Stop Pin, Reversing	4
	0857-002	Cam-ring, 20 GPM	1	28	0865-001	O-ring, Inlet Flange Seal	1
	0858-002	Cam-ring, 24 GPM	1	29	3732-064	Screw, Cap, Long, Inlet Cover	2
7	K-9008	Supersced by:		30	3732-059	Screw, Cap, Short, Inlet Cover	2
	7283-001	End Plate, Outlet (Includes item 27)	1	31	0845-001	Seal, Inlet Cover	1
8	0852-001	Locking Pin, Outlet Plate	1	32	0827-001	Cover, Inlet	1
9	0839-001	Washer, Slip Ring	1	33	0863-001	Flange, Inlet, 1-11-1/2 NPTF	1
10	0840-001	O-ring, Slip Ring	1		0863-002	Flange, Inlet, 1-1/4-11-1/2 NPTF	1
11	8095-001	O-ring, Outlet Flange Seal	1	34	2895-001	Shaft, (Optional), 7/8 Inch, SAE 13 Spline, Symbol "D"	1
12	0861-001	Flange, Outlet 1/2-14 NPTF	1	35	K-TC-FM	Foot Mount, (not shown)	1
	0861-002	Flange, Outlet 3/4-14 NPTF	1	36	2509-001	Shim, Shaft Bearing	2
	0861-003	Flange, Outlet 1-11-1/2 NPTF	1				

Model TC Vane Pump

Model TC Dimensional View



Model TC Number Designation

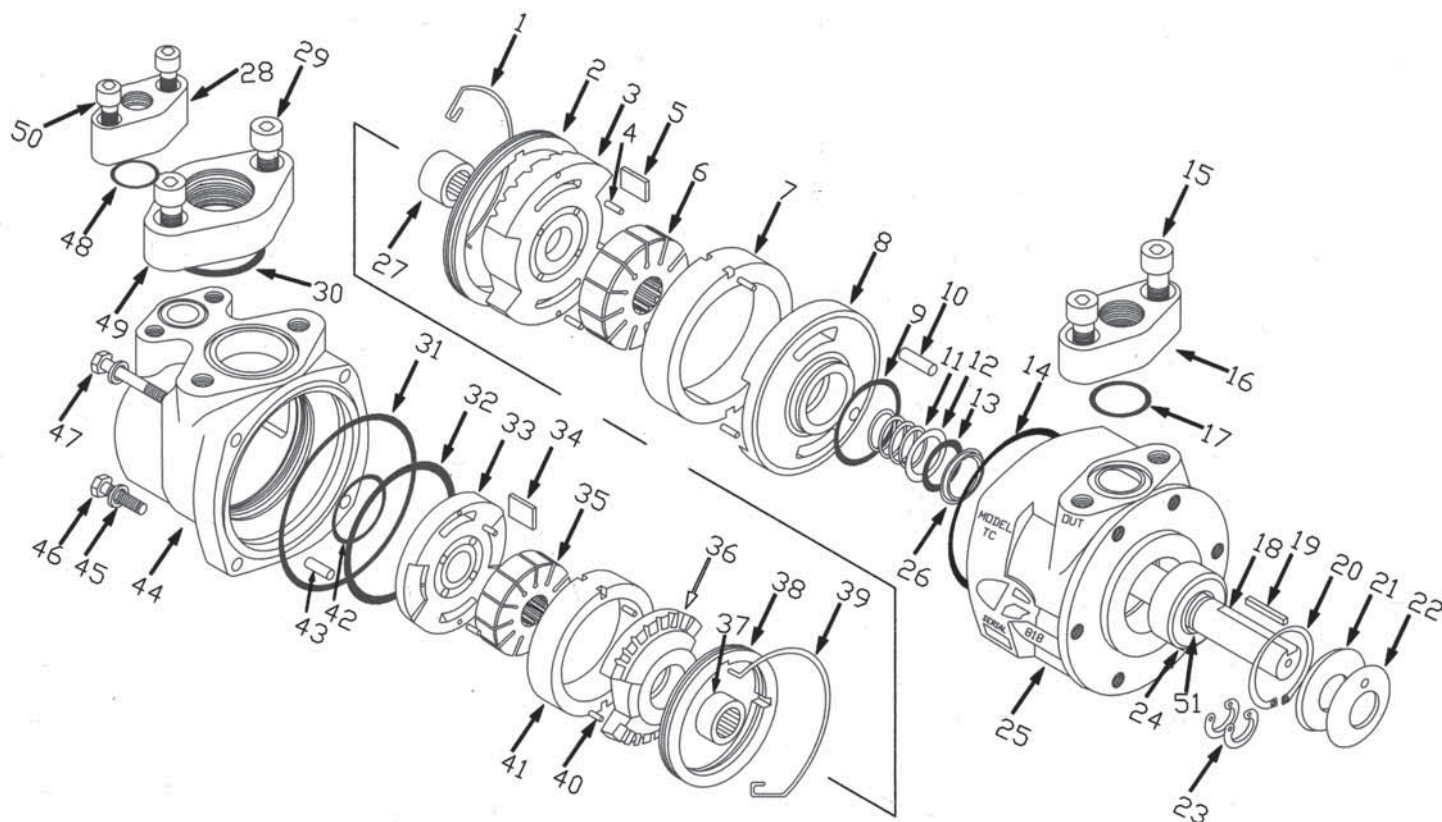
TC	24	125	75	B	CW
Pump Series	Pump Size	Inlet Port	Outlet Port	Input Shaft	Rotation

Model TC Options

Option	Description	Option	Description
Pump Size	Output at 1500 PSI (103 Bar) & 1500 RPM *	Shafts	Pump Input Shaft
12	12 GPM (45,6 lpm)	B	1 Inch Diameter with 1/4 Inch Keyway
16	19 GPM (72,2 lpm)	D	7/8 Inch SAE 13 Tooth Spline (For Direct PTO Mounting)
20	22 GPM (83,6 lpm)		
24	26 GPM (98,8 lpm)		
Inlet Port	Pump Inlet/Suction Port	Rotation	Pump Rotation (As Viewed From Shaft End)
100	1 Inch NPT Flange	CW	Clockwise
125	1-1/4 Inch NPT Flange	CCW	Counter Clockwise
Outlet Port	Pump Outlet/Pressure Port		
50	1/2 Inch NPT Flange		
75	3/4 Inch NPT Flange		
100	1 Inch NPT Flange (For Over 20 GPM, 76 lpm)		

*Typical Pump Outputs with oil temperature at 100 degrees F (37,7 degrees C) and a viscosity of 150 SSU.

Model DCB Vane Pump



DCB Part List

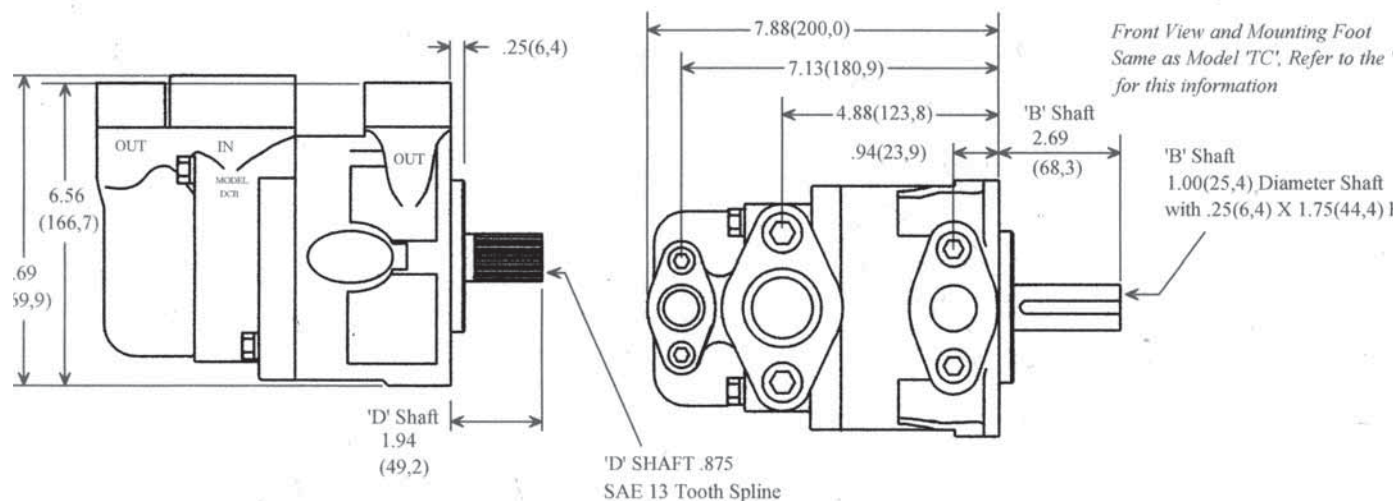
Item No.	Part No.	Description	Qty	Item No.	Part No.	Description	Qty
	CK-TC-12	Cartridge Kit, 12 GPM		8	0819-001	Superceded by:	
	CK-TC-16	Cartridge Kit, 16 GPM			7283-001	End Plate, Outlet (Includes item 4)	1
	CK-TC-20	Cartridge Kit, 20 GPM		9	0815-001	Seal, Outlet Plate, Small	1
	CK-TC-24	Cartridge Kit, 24 GPM		10	0852-001	Locking Pin, Outlet Plate	1
		(Contains cam-ring, rotor & vanes, items 5, 6 & 7)		11	0838-001	Spring, Slip Ring	1
	CK-TB-03	Cartridge Kit, 3 GPM		12	0839-001	Washer, Slip Ring Spring	1
	CK-TB-06	Cartridge Kit, 6 GPM		13	0840-001	O-ring, Slip Ring	1
	CK-TB-09	Cartridge Kit, 9 GPM		14	0816-001	Seal, Outlet Plate, Large	1
	CK-TB-12	Cartridge Kit, 12 GPM		15	3731-294	Bolt, Flange	2
		(Contains cam-ring, rotor & vanes, items 34, 35 & 41)		16	0861-001	Flange, Outlet 1/2-14 NPTF	1
	K-10002-F	Bearing & Seal Kit (Contains items 9, 12-14, 17, 21-24, 26-27, 30-32, 37, 42, 48, 51)			0861-002	Flange, Outlet 3/4-14 NPTF	1
					0861-007	Flange, Outlet 1-11-1/2 NPTF	1
				17	8095-001	O-ring, Outlet Flange	1
				18	0814-001	Shaft, Keyed, 1 inch	1
				19	0868-001	Key, for No. 0814-001 Shaft	1
				20	0841-001	Snap Ring, Bearing Housing	1
				21	0885-001	Washer, Leather	1
				22	0884-001	Retainer, Dust Shield	1
				23	0842-001	Ring, Retainer, Bearing Shaft	2
				24	0847-001	Bearing, Shaft	1
				25	0818-001	Housing	1
				26	0872-001	Ring, Slip	1
				27	0812-001	Bearing, Needle, Inlet	1
						(Parts for "B" End of DCB Double Pump)	
1	3342-001	Wire, Locking	1	28	1023-001	Flange, Outlet, 3/8-18 NPTF	1
2	3340-001	Ring, Threaded	1		1023-002	Flange, Outlet, 1/2-14 NPTF	1
3	K-10004	Superceded by:			1023-003	Flange, Outlet, 3/4-14 NPTF	1
	7286-001	End Plate, Inlet (Includes Items 4 & 27)	1				
4	0888-001	Stop Pin, Reversing	4				
5	1018-001	Vane C-End	12				
6	0835-001	Rotor C-End	1				
7	0855-002	Cam-ring, C-End 12 GPM	1				
	0856-002	Cam-ring, C-End 16 GPM	1				
	0857-002	Cam-ring, C-End 20 GPM	1				
	0858-002	Cam-ring, C-End 24 GPM	1				

DCB Part List

Item No.	Part No.	Description	Qty	Item No.	Part No.	Description	Qty
29	3731-294	Bolt, Flange	2	42	0821-001	Seal, Outlet Plate, Small	1
30	0823-001	Seal, Inlet Flange	1	43	1028-001	Locking Pin, Outlet Plate	1
31	0845-001	Seal, Inlet Cover	1	44	0817-001	Housing	1
32	1021-001	Seal, Outlet Plate, Large	1	45	1215-001	Lockwasher, Split Ring	4
33	1004-003	Superceded by:		46	3732-059	Screw, Assembly, Short	2
	7285-001	End Plate, Outlet (Includes Item 40)	1	47	3732-067	Screw, Assembly, Long	2
34	1011-001	Vane B-End	12	48	0006-001	O-ring, Outlet Flange	1
35	1002-001	Rotor B-End	1	49	0822-001	Flange, Inlet, 1-1/2-11-1/2 NPT	1
36	K-10003	Superceded by:		50	3731-198	Bolt, Flange	2
	7284-001	End Plate, Inlet (Includes Items 37 & 40)	1	51	2509-001	Shim, Shaft Bearing	1
37	1078-001	Bearing, Needle	1	52	K-TC-FM	Foot Bracket (not shown)	1
38	3341-001	Ring, Threaded	1	53	3083-001	Shaft (Optional) SAE 13 Spline (not shown)	1
39	3342-001	Wire, Locking	1				
40	1036-001	Stop Pin, Reversing	4				
41	1003-002	Cam-ring, B-End 03 GPM	1				
	1006-002	Cam-ring, B-End 06 GPM	1				
	1009-002	Cam-ring, B-End 09 GPM	1				
	1012-002	Cam-ring, B-End 12 GPM	1				

Model DCB Vane Pump

Model DCB Dimensional View



Model DCB Number Designation

DCB	24	9	150	75	50	B	CW
Pump Series	Pump Size (Primary)	Pump Size (Secondary)	Inlet Port	Outlet Port (Primary)	Outlet Port (Secondary)	Input Shaft	Rotation

Model DCB Options

Option	Description
(Primary)	
Pump Size	Output at 1500 PSI (103 Bar) & 1500 RPM *
12	12 GPM (45,6 lpm)
16	19 GPM (72,2 lpm)
20	22 GPM (83,6 lpm)
24	26 GPM (98,8 lpm)
(Secondary)	
Pump Size	Output at 1500 PSI (103 Bar) & 1500 RPM *
3	3 GPM (11,4 lpm)
6	6 GPM (26,6 lpm)
9	9 GPM (41,8 lpm)
12	12 GPM (53,2 lpm)
Inlet Port	Pump Inlet/Suction Port
150	1-1/2 Inch NPT Flange

Option	Description
(Primary)	
Outlet Port	Pump Outlet/Pressure Port
50	1/2 Inch NPT Flange
75	3/4 Inch NPT Flange
100	1 Inch NPT Flange (For Over 20 GPM, 76 lpm)
(Secondary)	
Outlet Port	Pump Outlet/Pressure Port
38	3/8 Inch NPT Flange
50	1/2 Inch NPT Flange
75	3/4 Inch NPT Flange (For Over 20 GPM, 76 lpm)
Shafts	Pump Input Shaft
B	1 Inch Diameter with 1/4 Inch Keyway
D	7/8 Inch SAE 13 Tooth Spline (For Direct PTO Mounting)
Rotation	Pump Rotation <i>(As Viewed From Shaft End)</i>
CW	Clockwise
CCW	Counter Clockwise

*Typical Pump Outputs with oil temperature at 100 degrees F (37,7 degrees C) and a viscosity of 150 SSU.



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