



Contents

General information	Service parts identification	4
	Nameplate	4
	Date code	5
	Service bulletins.....	5
	Procedure to identify a part.....	5
Fixed displacement motor	Order code	7
	Common parts	8-9
	Special hardware	8-25
	End cap.....	26-33
	Loop flushing.....	34-35
	Charge pressure.....	36-37
	Shaft	38-39
	Overhaul seal kit	39
Service bulletin	SB-1988-018 (dowel pin change)	40
	SB-1988-023 (piston improvement)	41
	SB-1989-020 (end cap, loop flushing, and adding adjustable cprv)	42-43
	SB-1998-007 (end cap)	44-45
	SB-1999-036 (housing)	46
	SB-2000-047 (loop flushing spring and spring seat)	47
	SB-2001-011 (end cap gasket material).....	48
	SB-2002-048 (valve plate).....	49
	SB-2003-010 (housing)	50



General information

Service parts identification

The following information and procedure is used to identify the module group, item number, manufacture date, part number, and part name of the parts included in the Series 90, 100 cc fixed displacement cartridge motor.

The parts listed include all parts which may be used when performing either "Minor Repairs", "Major Repairs" or "Conversions" on the Series 90, 100 cc motor.

Nameplate

Each unit will have a nameplate affixed to the housing. The nameplate will include the following information.

Model Code

The Danfoss model code completely defines the specific unit and must be used when ordering parts to service this product.

Model Number

The Danfoss model number is used by the factory in manufacturing. On repeat orders, a complete unit can be ordered by the model number.

Serial Number

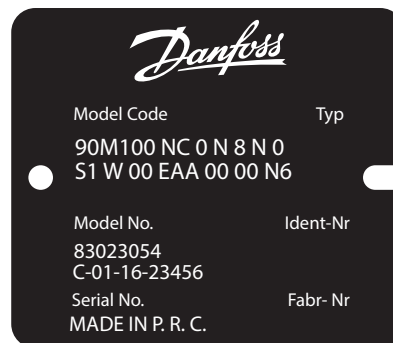
The Danfoss serial number is used to identify the manufacture date and the unit sequence in the build. The serial number is also used to identify the units warranty time period.

The letter code indicates the location of original manufacture (assembly). "C" indicates the unit was originally assembled in China.

The first number (2 digits) indicates the year of manufacture. ("01" would indicate the unit was manufactured in 2001)

The second number (2 digits) indicates the calendar week of manufacture.

The third number (5 digits) is a sequential number used to identify a specific unit.



General information

Date code

The date code is defined as the year and week of manufacture. The same item number may list more than one part number. This indicates that there is more than one configuration for that item number. You will see that there are different date codes for the different part numbers. Find the date code of your unit from the nameplate to determine which service part number you need to order.

EXAMPLE: The service part desired is Item H10

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Usage
N	H10	89-38		8800668	Loop flushing spool, defeated	1
	H10	87-02	89-37	8800021	Loop flushing spool, defeated (SB-1989-020)	1

All units using this order code with a date code of 87-02 and up to and including 89-37, must use part number "8800021". All units with a date code of 89-38 and newer must use part number "8800668".

Service bulletins

A Service Bulletin Number (SB-____-____) may follow the "Part Name" of the part you desire. You must read that Service Bulletin prior to ordering that part. The information contained in these Service Bulletins, as of the print date of this bulletin, are included at the end of this manual. Service Bulletins contain more detailed information such as interchangeability, what additional parts are involved, etc. It is suggested that you add additional Service Bulletins to this manual as you receive them.

Procedure to identify a part

General

The modular design of Series 90 units results in a simplified service parts list and part number identification procedure.

The same item numbers are used for same part names on all units within a product type. (Example: The lip seal - Item L40 has the same item number on all motors.)

A part number that has another number following it in parentheses is done to make this a world wide manual. The first number is sold in Germany. The number in parentheses is sold in the United States. (Example: 515965 (9005110-5600), customers would order 9005110-5600 if ordering the part in the United States.)

Example of a part identification

The nameplate on a Series 90 motor has an Order Code of 90M100 NC 0 N 8 N 0 S1 W 00 EAA 00 00 N6. Use the following procedures to determine the part number of the drive shaft used on this motor.

1) Referring to the shaft module in the Order Code (see page 7), the shaft option for this motor is identified by the code "F1". (90M100 NC 0 N 8 N 0 **S1** W 00 EAA 00 00 N6)

2) Referring to the Service Parts List, find the shaft group. Next find the order code that relates to this unit, which is "S1". The shaft is found to be item L100 and part number 11012429.

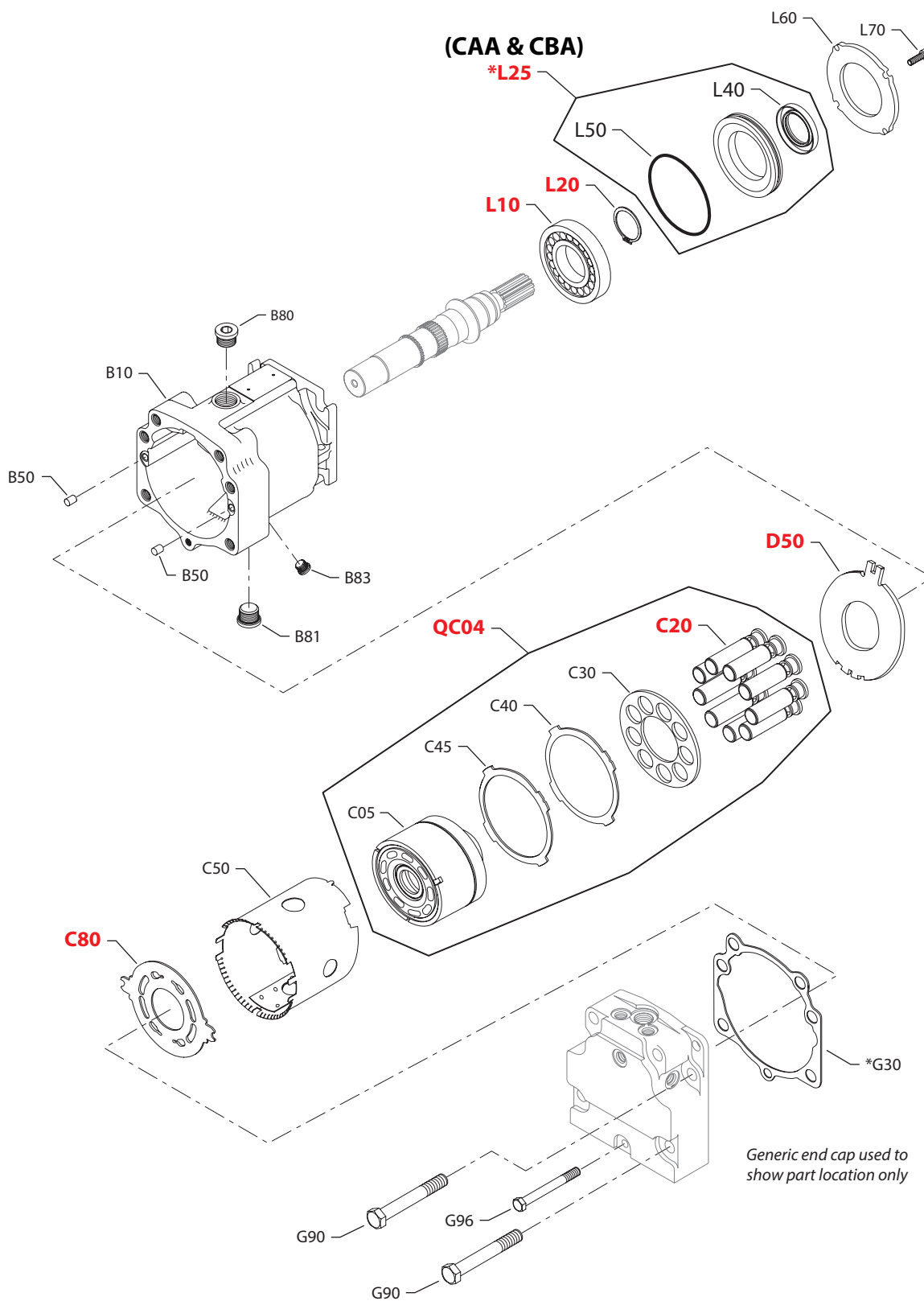


Order code, fixed displacement motor

Series	Displacement						G		L	H		W				K
90	M	100	NC	0	N	8	N	0	S1	W	00	NNN	00	00	00	24
Type																
Not applicable																
Not applicable																
Not applicable																
End cap																
Not applicable																
Not applicable																
Shaft																
Loop flushing																
Not applicable																
Special hardware features																
Not applicable																
Not applicable																
Charge pressure setting																

P100 709E

Fixed displacement motor



E100 837E

* = included in overhaul seal kit Q210

Enlarged **bold** type item numbers are recommended part to stock for servicing.

Parts Manual

Series 90 100 cc Axial Piston Motor

Fixed displacement motor

Common parts

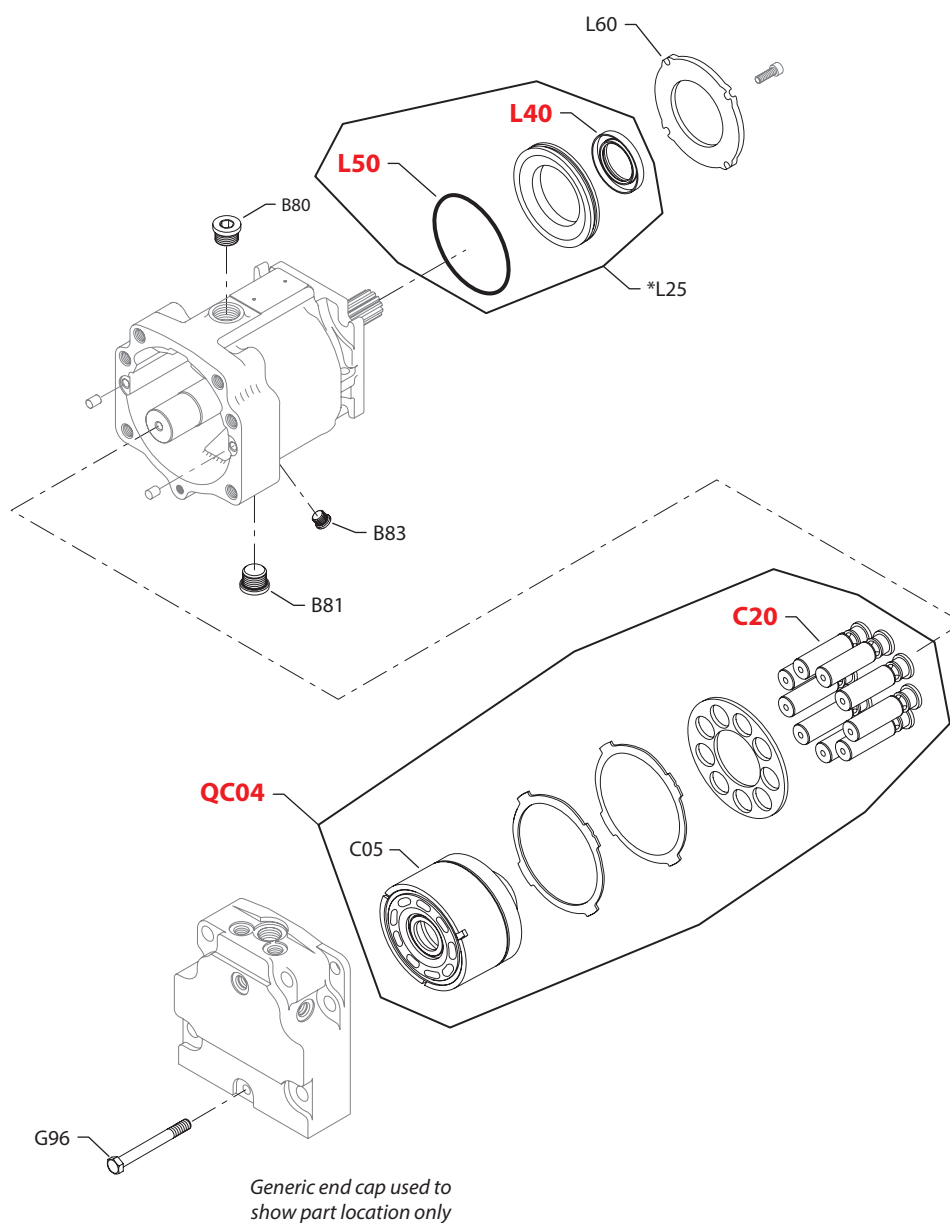
Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	B10	88-23		8200561	Housing (SB-1988-018, 1999-036, and 2003-010)	1
	B50	88-23		9004800-3708	Pin (SB-1988-018)	2
	B50	87-07	88-22	9004800-3116	Pin	2
	B80	87-07		664524 (9005110-9000)	Plug assembly	1
	B81	87-07		664524 (9005110-9000)	Plug assembly	1
	C30	87-07		11067351	Slipper guide	1
	C40	87-07		11057798	Slipper guide retainer	1
	C45	87-07		11063829	Slipper guide retainer spacer	1
	C50	87-07		8200237	Hold down tube	1
	C80	88-23		324137	Valve plate (SB-2002-048)	1
	C80	87-07	88-22	8200103	Valve plate (SB-1988-018)	1
	D50	88-23		11136453	Thrust plate (SB-1988-0018)	1
	G30	87-07		8200511	End cap gasket (SB-2001-011)	1
	G90	04-15		674424 (9007210-1617)	Screw	6
	G90	87-07	04-14	674424(9007210-1617)	Screw (SB-2003-010)	4
	G95	87-07	04-14	675900 (9007210-1609)	Screw (SB-2003-010)	2
	L10	87-07		5000506	Roller beraing	1
	L20	87-07		9006300-0175	Retaining ring	1
	L70	87-07		041160 (9007314-0605)	Screw	4

Special hardware

CAA	C05	94-14		519257 (11012434)	Cylinder block assembly w/o speed ring	1
	C20	94-14		8200031	Piston assembly, hollow (SB-1988-023)	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		8510369	Cylinder block kit, w/o speed ring (SB-2009-026)	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
CBA	C05	94-14		519257 (11012434)	Cylinder block assembly w/o speed ring	1
	C20	94-14		508080	Piston assembly	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		11133858	Cylinder block kit, w/o speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1

Fixed displacement motor

(CBC & CBE)



E100 838E

* = included in overhaul seal kit Q210

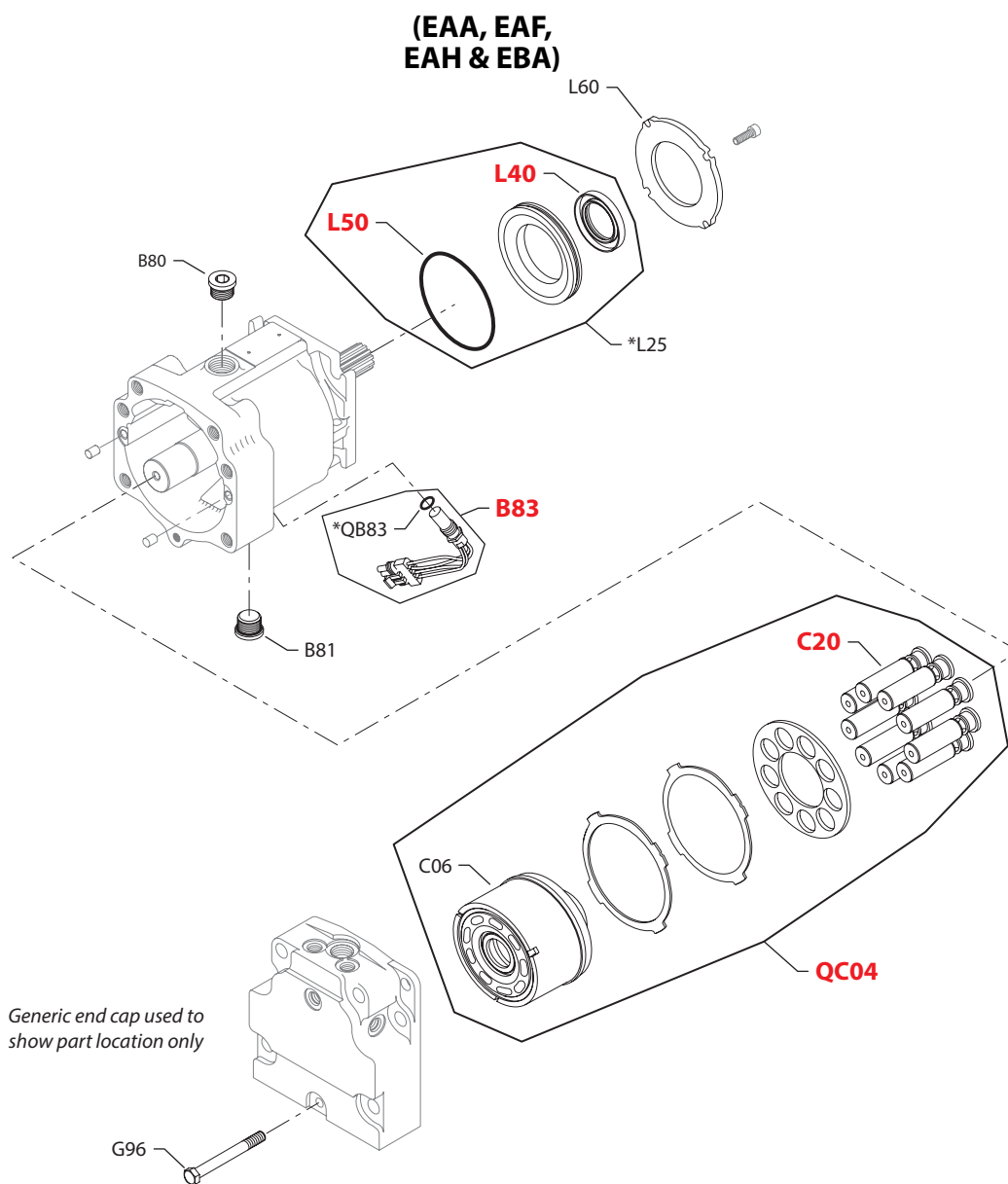
Enlarged **bold** type item numbers are recommended part to stock for servicing.

Fixed displacement motor
Special hardware

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
CBC	C05	94-14		519257 (11012434)	Cylinder block assembly w/o speed ring	1
	C20	94-14		508080	Piston assembly	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		509487	Screw, M10 x 100	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		11133858	Cylinder block kit, w/o speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
CBE	C05	94-14		519257 (11012434)	Cylinder block assembly w/o speed ring	1
	C20	94-14		508080	Piston assembly	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		509487	Screw, M10 x 100	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		11133858	Cylinder block kit, w/o speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1



Fixed displacement motor



E103 013E

* = included in overhaul seal kit Q210

Enlarged **bold** type item numbers are recommended part to stock for servicing.

Parts Manual

Series 90 100 cc Axial Piston Motor

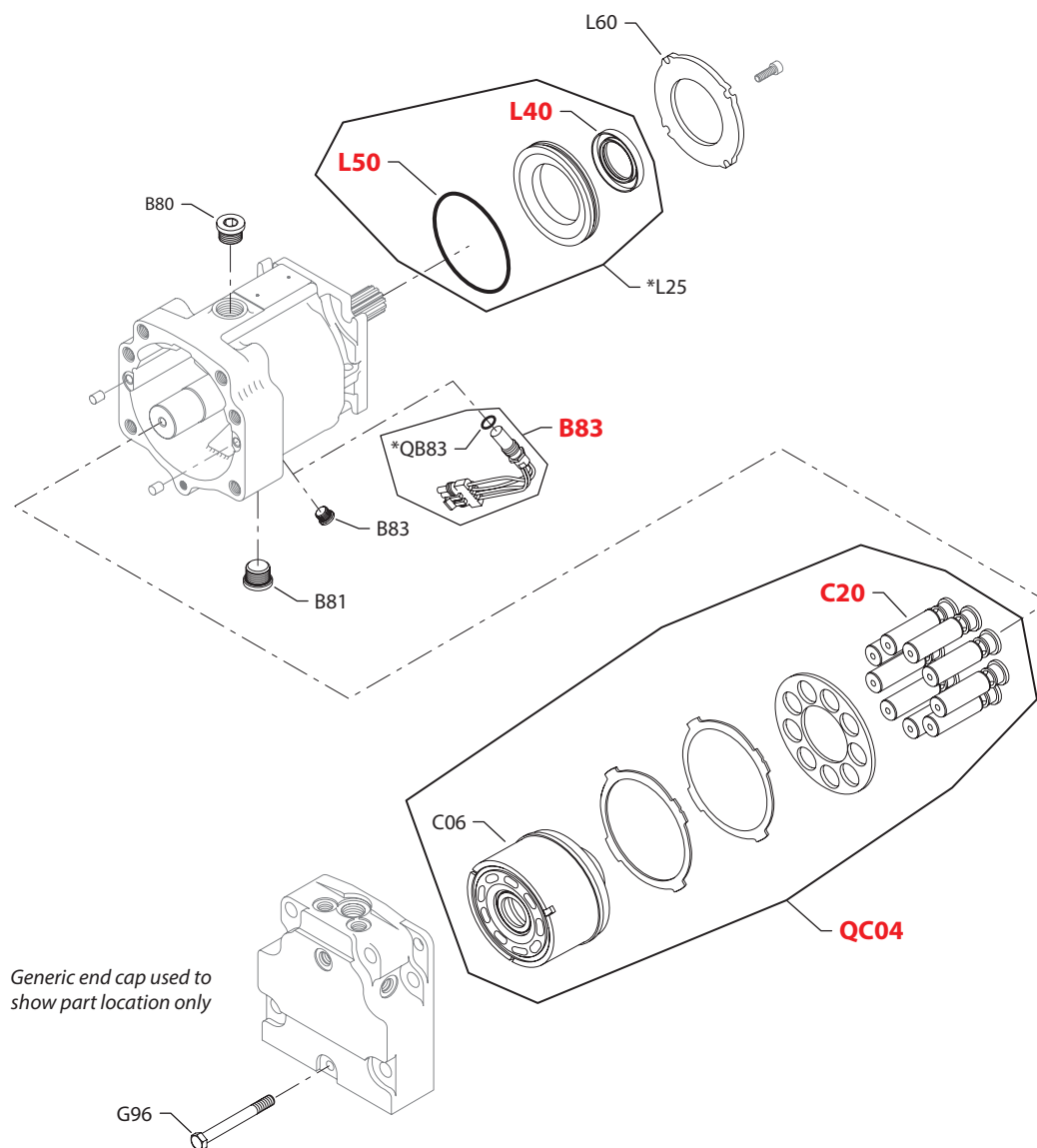
Fixed displacement motor

Special hardware

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
EAA	C06	94-14		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		KPPG12508	Speed sensor assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QB83	94-14		085043 (9004201-3700)	O-ring	1
	QC04	94-14		8510395	Cylinder block kit, with speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
EAF	C06	94-14		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		KPPG13808	Speed sensor assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QB83	94-14		085043 (9004201-3700)	O-ring	1
	QC04	94-14		8510395	Cylinder block kit with speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
EAH	C06	94-14		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		KPPG13808	Speed sensor assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QB83	94-14		085043 (9004201-3700)	O-ring	1
	QC04	94-14		8510395	Cylinder block kit with speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
EBA	C06	94-14		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		KPPG13408	Speed sensor assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QB83	94-14		085043 (9004201-3700)	O-ring	1
	QC04	94-14		8510395	Cylinder block kit with speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1

Fixed displacement motor

(EBB, EBF,
EEA & EEH)



E103 014E

* = included in overhaul seal kit Q210

Enlarged **bold** type item numbers are recommended part to stock for servicing.

Parts Manual

Series 90 100 cc Axial Piston Motor

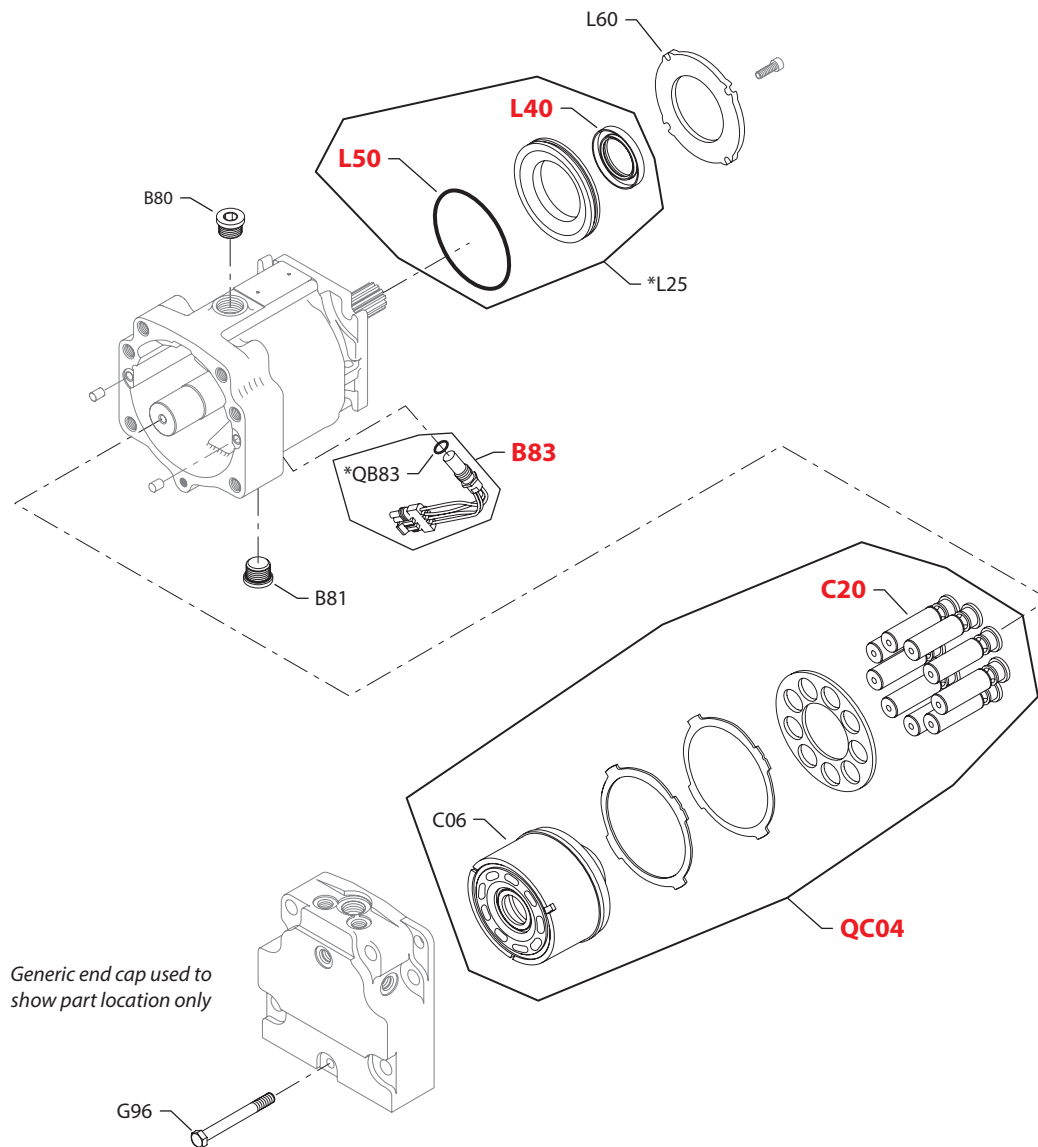
Fixed displacement motor

Special hardware

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
EBB	C06	94-14		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		KPPG14408	Speed sensor assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QB83	94-14		085043 (9004201-3700)	O-ring	1
	QC04	94-14		8510395	Cylinder block kit with speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
EBF	C06	15-30		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	15-30		364000	Piston assembly	9
	B83	15-30		KPPG1A408	Speed sensor assembly	1
	G96	15-30		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	15-30		521722	Seal carrier assembly	1
	L40	15-30		519021	Lip seal	1
	L50	15-30		327627 (9004104-1540)	O-ring	1
	L60	15-30		516768	Retainer plate	1
	QB83	15-30		085043 (9004201-3700)	O-ring	1
	QC04	15-30		8510395	Cylinder block kit with speed ring	1
	Q210	15-30		11134055	Overhaul seal kit, standard	1
EEA	C06	94-14		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		8510395	Cylinder block kit with speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
EEH	C06	14-15		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	14-15		364000	Piston assembly	9
	B83	14-15		140644	Plug assembly	1
	G96	14-15		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	14-15		521722	Seal carrier assembly	1
	L40	14-15		519021	Lip seal	1
	L50	14-15		327627 (9004104-1540)	O-ring	1
	L60	14-15		516768	Retainer plate	1
	QC04	14-15		8510395	Cylinder block kit with speed ring	1
	Q210	14-15		11134055	Overhaul seal kit, standard	1

Fixed displacement motor

(EFA, EFB, EFJ & EFM)



E103 013E

* = included in overhaul seal kit Q210

Enlarged **bold** type item numbers are recommended part to stock for servicing.

Parts Manual

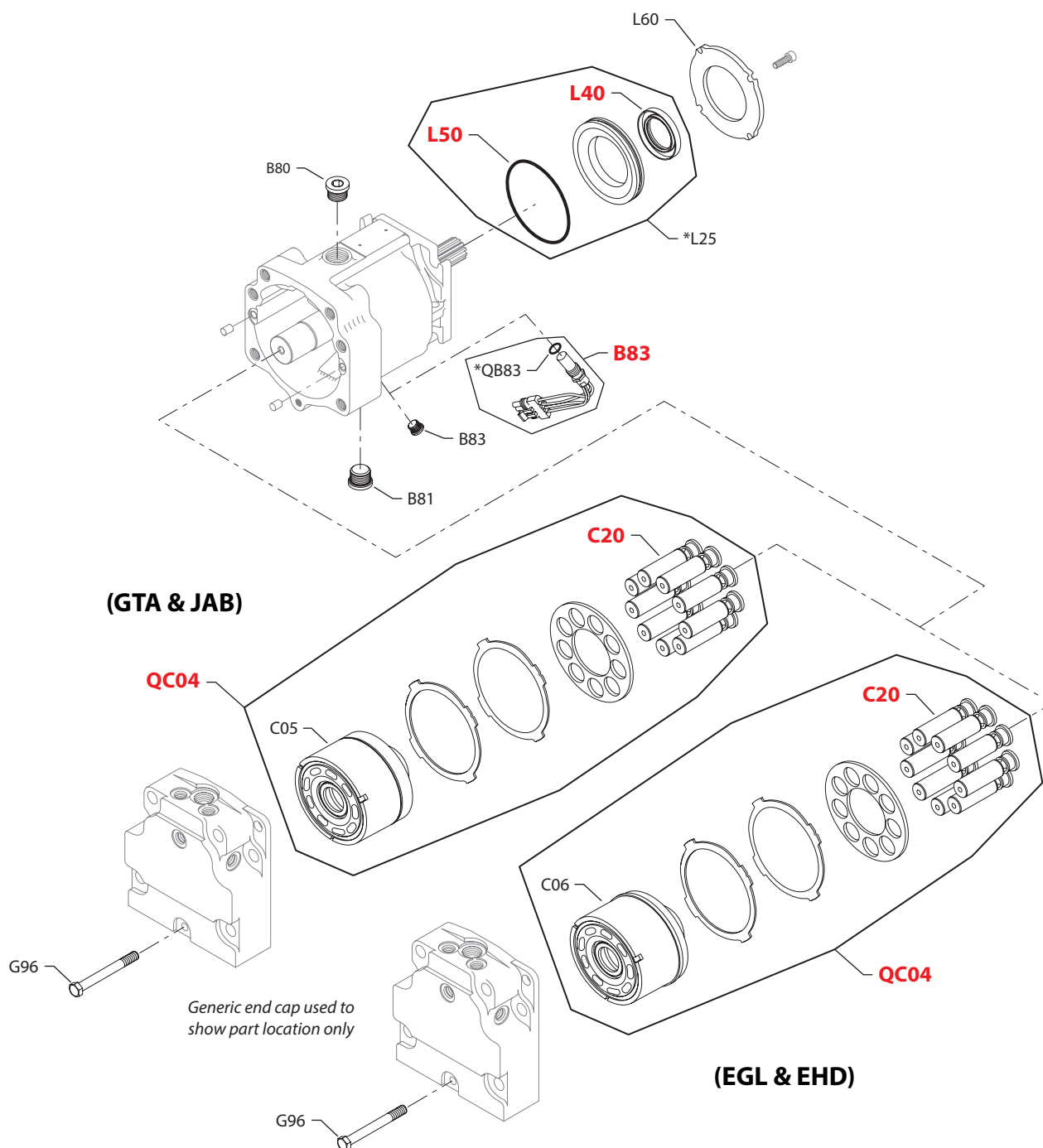
Series 90 100 cc Axial Piston Motor

Fixed displacement motor

Special hardware

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
EFA	C06	94-14		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		KPPG136	Speed sensor assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QB83	94-14		085043 (9004201-3700)	O-ring	1
	QC04	94-14		8510395	Cylinder block kit with speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
EFB	C06	94-14		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		KPPG136	Speed sensor assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QB83	94-14		085043 (9004201-3700)	O-ring	1
	QC04	94-14		8510395	Cylinder block kit with speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
EFJ	C06	94-14		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		KPPG176	Speed sensor assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QB83	94-14		085043 (9004201-3700)	O-ring	1
	QC04	94-14		8510395	Cylinder block kit with speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
EFM	C06	14-36		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	14-36		364000	Piston assembly	9
	B83	14-36		KPPG12730A	Speed sensor assembly	1
	G96	14-36		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	14-36		521722	Seal carrier assembly	1
	L40	14-36		519021	Lip seal	1
	L50	14-36		327627 (9004104-1540)	O-ring	1
	L60	14-36		516768	Retainer plate	1
	QB83	14-36		085043 (9004201-3700)	O-ring	1
	QC04	14-36		8510395	Cylinder block kit with speed ring	1
	Q210	14-36		11134055	Overhaul seal kit, standard	1

Fixed displacement motor



E103 015E

* = included in overhaul seal kit Q210

Enlarged **bold** type item numbers are recommended part to stock for servicing.

Parts Manual

Series 90 100 cc Axial Piston Motor

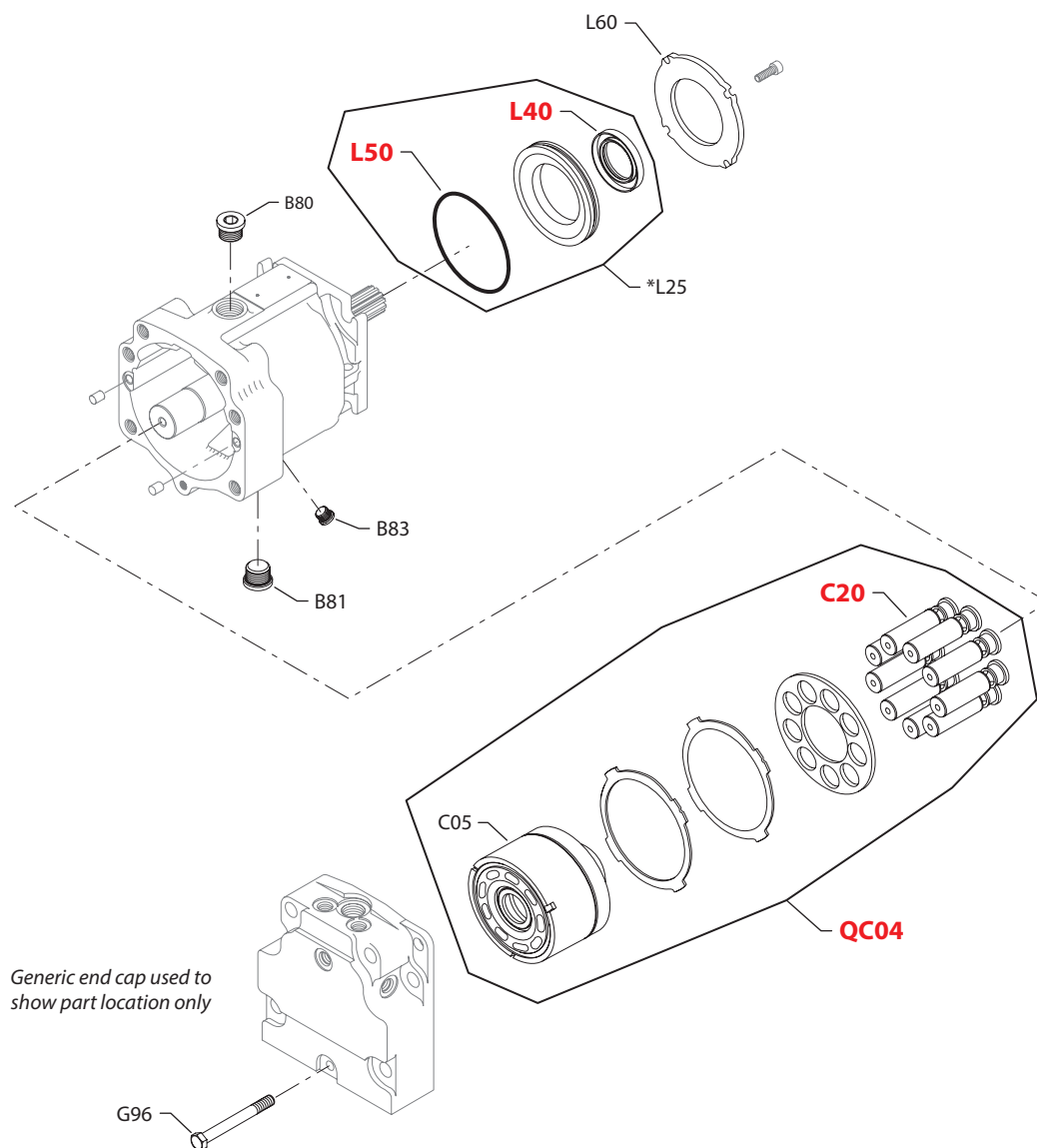
Fixed displacement motor

Special hardware

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
EGL	C06	10-34		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	10-34		364000	Piston assembly	9
	B83	10-34		KPPG16719	Speed sensor assembly	1
	G96	10-34		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	10-34		521722	Seal carrier assembly	1
	L40	10-34		519021	Lip seal	1
	L50	10-34		327627 (9004104-1540)	O-ring	1
	L60	10-34		516768	Retainer plate	1
	QB83	10-34		085043 (9004201-3700)	O-ring	1
	QC04	10-34		8510395	Cylinder block kit with speed ring	1
	Q210	10-34		11134055	Overhaul seal kit, standard	1
EHD	C06	94-14		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		KPPG16408	Speed sensor assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QB83	94-14		085043 (9004201-3700)	O-ring	1
	QC04	94-14		8510395	Cylinder block kit with speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
GTA	C05	14-26		519257 (11012434)	Cylinder block assembly	1
	C20	14-26		364000	Piston assembly	9
	B83	14-26		140644	Plug assembly	1
	G96	14-26		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	14-26		521722	Seal carrier assembly	1
	L40	14-26		519021	Lip seal	1
	L50	14-26		327627 (9004104-1540)	O-ring	1
	L60	14-26		516768	Retainer plate	1
	QC04	14-26		8510370	Cylinder block kit	1
	Q210	14-26		11134055	Overhaul seal kit, standard	1
JAB	C05	94-14		519257 (11012434)	Cylinder block assembly	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		8510370	Cylinder block kit	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1

Fixed displacement motor

(JAE, JAF, JAH & JCB)



* = included in overhaul seal kit Q210

E103 016E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

Parts Manual

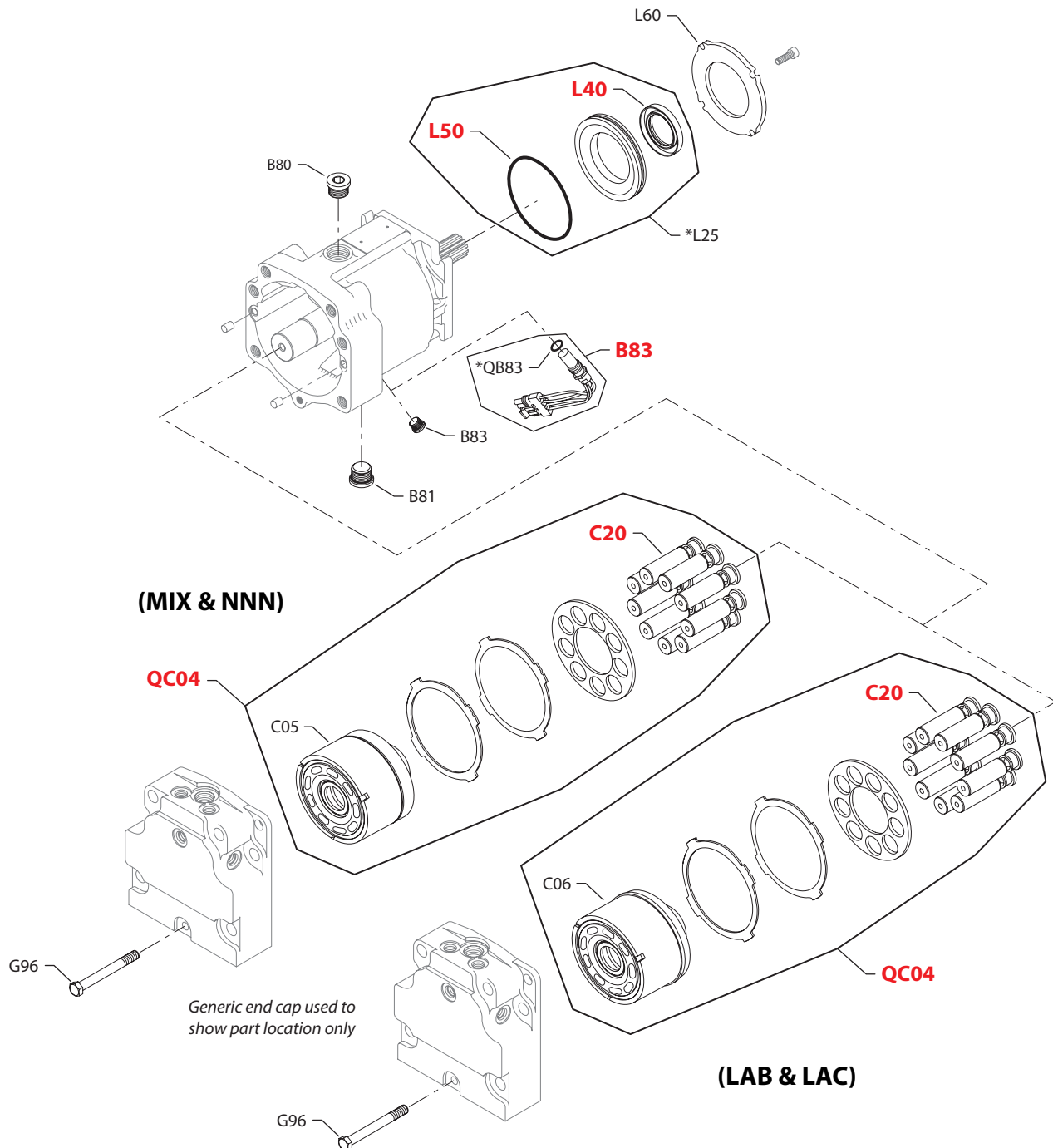
Series 90 100 cc Axial Piston Motor

Fixed displacement motor

Special hardware

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
JAE	C05	15-44		519257 (11012434)	Cylinder block assembly	1
	C20	15-44		364000	Piston assembly	9
	B83	15-44		140644	Plug assembly	1
	G96	15-44		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	15-44		521722	Seal carrier assembly	1
	L40	15-44		519021	Lip seal	1
	L50	15-44		327627 (9004104-1540)	O-ring	1
	L60	15-44		516768	Retainer plate	1
	QC04	15-44		8510370	Cylinder block kit	1
	Q210	15-44		11134055	Overhaul seal kit, standard	1
JAF	C05	94-14		519257 (11012434)	Cylinder block assembly	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		8510370	Cylinder block kit	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
JAH	C05	94-14		519257 (11012434)	Cylinder block assembly	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		8510370	Cylinder block kit	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
JCB	C05	94-14		519257 (11012434)	Cylinder block assembly	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		8510370	Cylinder block kit	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1

Fixed displacement motor



E103 015E

* = included in overhaul seal kit Q210

Enlarged **bold** type item numbers are recommended part to stock for servicing.

Parts Manual

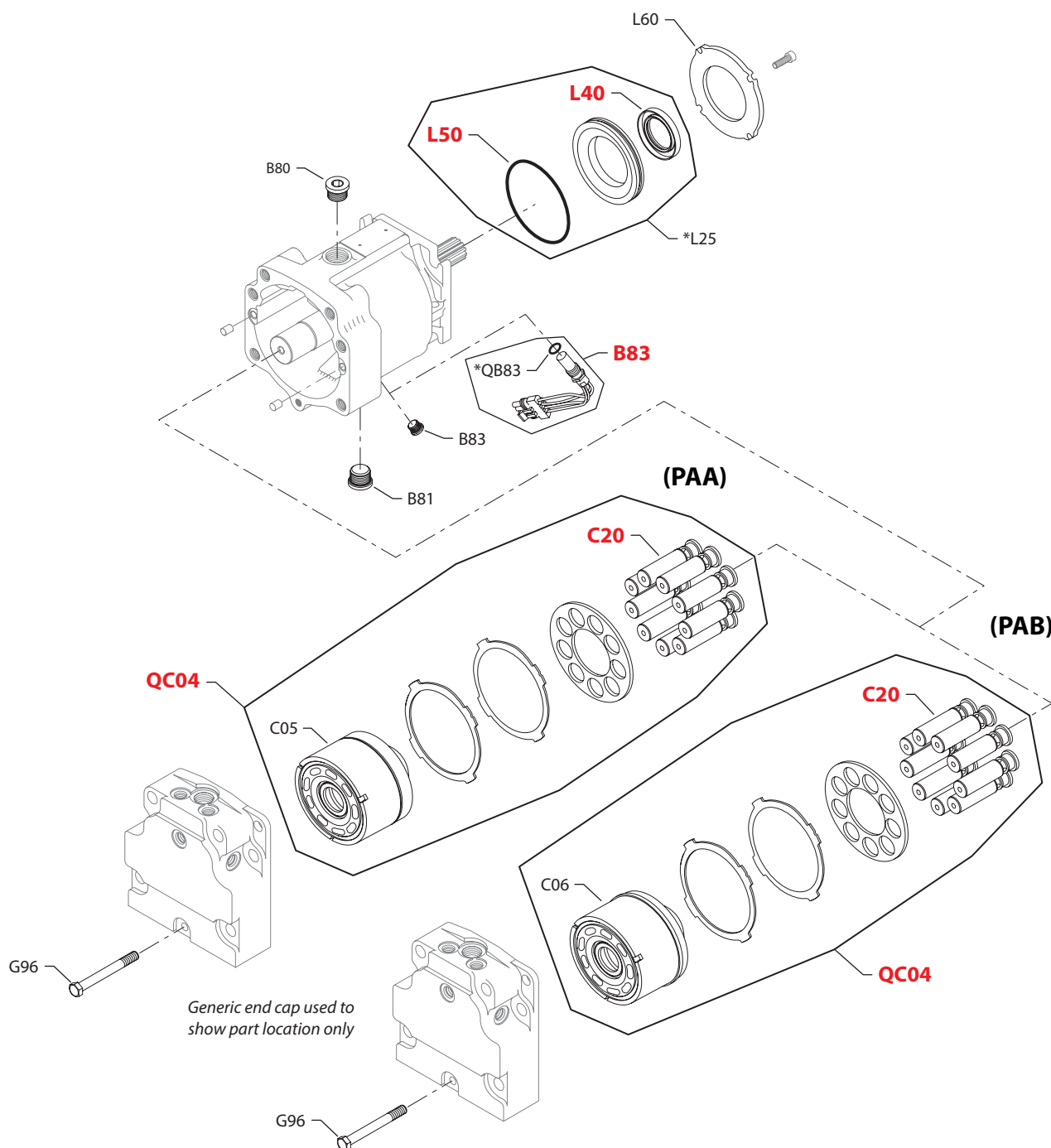
Series 90 100 cc Axial Piston Motor

Fixed displacement motor

Special hardware

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
LAB	C06	94-14		11012436	Cylinder block assembly with speed ring	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		KPPG14408	Speed sensor assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QB83	94-14		085043 (9004201-3700)	O-ring	1
	QC04	94-14		11135418	Cylinder block kit with speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
LAC	C06	94-14		11012436	Cylinder block assembly with speed ring	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		11135418	Cylinder block kit with speed ring	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
MIX	C05	94-14		11155338	Cylinder block assembly	1
	C20	94-14		11149730	Piston assembly	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		8510370	Cylinder block kit	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
NNN	C05	94-14		519257 (11012434)	Cylinder block assembly	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		307686 (9007210-1017)	Screw, M10 x 80	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		8510370	Cylinder block kit	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1

Fixed displacement motor



E103 015E

* = included in overhaul seal kit Q210

Enlarged **bold** type item numbers are recommended part to stock for servicing.

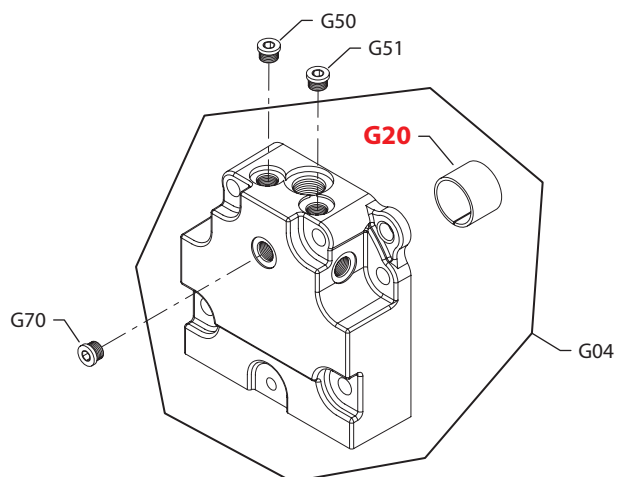

Fixed displacement motor
Special hardware

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
PAA	C05	94-14		519257 (11012434)	Cylinder block assembly	1
	C20	94-14		364000	Piston assembly	9
	B83	94-14		140644	Plug assembly	1
	G96	94-14		509487	Screw, M10 x 100	1
	L25	94-14		521722	Seal carrier assembly	1
	L40	94-14		519021	Lip seal	1
	L50	94-14		327627 (9004104-1540)	O-ring	1
	L60	94-14		516768	Retainer plate	1
	QC04	94-14		8510370	Cylinder block kit	1
	Q210	94-14		11134055	Overhaul seal kit, standard	1
PAB	C06	10-16		11093925 (11012435)	Cylinder block assembly with speed ring	1
	C20	10-16		364000	Piston assembly	9
	B83	10-16		KPPG16719	Speed sensor assembly	1
	G96	10-16		509487	Screw, M10 x 100	1
	L25	10-16		521722	Seal carrier assembly	1
	L40	10-16		519021	Lip seal	1
	L50	10-16		327627 (9004104-1540)	O-ring	1
	L60	10-16		516768	Retainer plate	1
	QB83	10-16		085043 (9004201-3700)	O-ring	1
	QC04	10-16		8510395	Cylinder block kit with speed ring	1
	Q210	10-16		11134055	Overhaul seal kit, standard	1

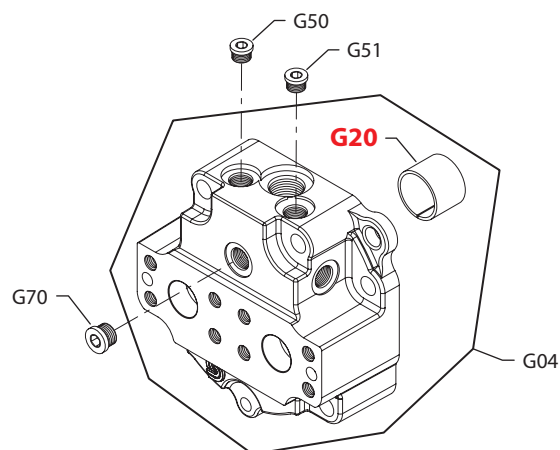


Fixed displacement motor

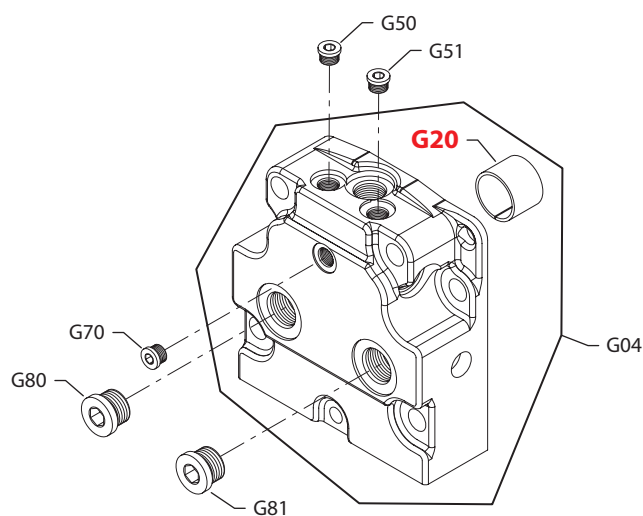
(1, 8 & D)



(3 & 7)



(E)



E100 821E

* = included in overhaul seal kit Q210

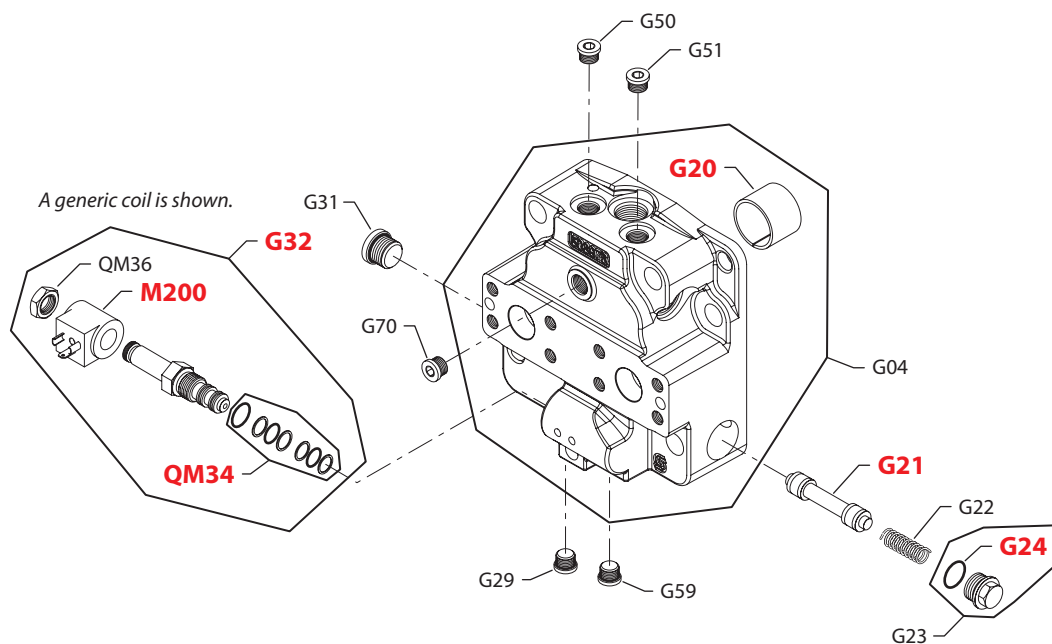
Enlarged **bold** type item numbers are recommended part to stock for servicing.

Fixed displacement motor
End cap

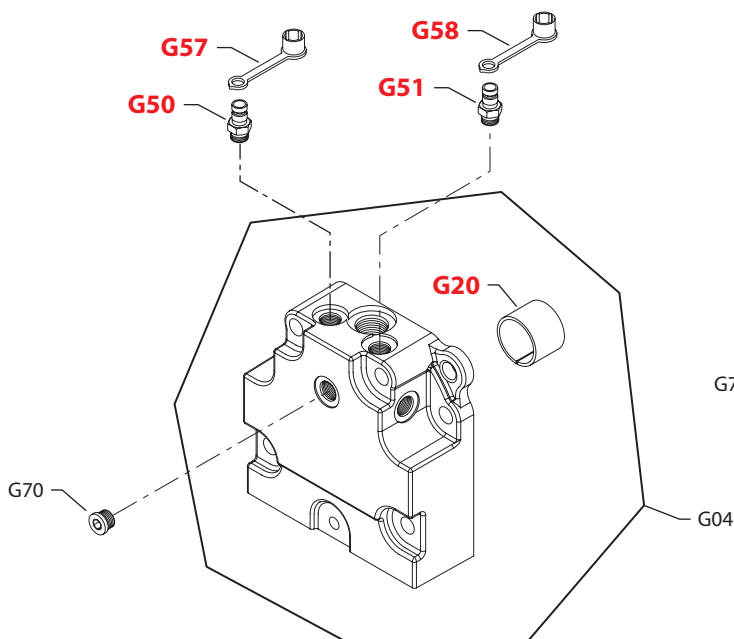
Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
1	G04	90-20		8200581	End cap assy., twin (SB-1988-018, 1989-020,1998-007)	1
	G20	87-02		11017304 (8700030)	Journal bearing	1
	G50	87-02		140644	Plug assembly	1
	G51	87-02		140644	Plug assembly	1
	G70	87-02		140644	Plug assembly	1
3	G04	90-20		8200582	End cap assy., axial (SB-1988-018, 1989-020,1998-007)	1
	G20	87-02		11017304 (8700030)	Journal bearing	1
	G50	87-02		140644	Plug assembly	1
	G51	87-02		140644	Plug assembly	1
	G70	87-02		140644	Plug assembly	1
7	G04	90-20		8200582	End cap assy., axial (SB-1988-018, 1989-020,1998-007)	1
	G20	87-02		11017304 (8700030)	Journal bearing	1
	G50	87-02		140644	Plug assembly	1
	G51	87-02		140644	Plug assembly	1
	G70	87-02		140644	Plug assembly	1
8	G04	90-20		8200581	End cap assy., twin (SB-1988-018, 1989-020,1998-007)	1
	G20	87-02		11017304 (8700030)	Journal bearing	1
	G50	87-02		140644	Plug assembly	1
	G51	87-02		140644	Plug assembly	1
	G70	87-02		140644	Plug assembly	1
D	G04	99-09		11064118	End cap assy., twin	1
	G20	99-09		11017304 (8700030)	Journal bearing	1
	G50	99-09		140644	Plug assembly	1
	G51	99-09		140644	Plug assembly	1
	G70	99-09		140644	Plug assembly	1
E	G04	95-17		8200562	End cap assy., twin (SB-1998-007)	1
	G20	95-17		11017304 (8700030)	Journal bearing	1
	G50	95-17		140644	Plug assembly	1
	G51	95-17		140644	Plug assembly	1
	G70	95-17		140644	Plug assembly	1
	G80	95-17		664524 (9005110-9000)	Plug assembly	1
	G81	95-17		664524 (9005110-9000)	Plug assembly	1

Fixed displacement motor

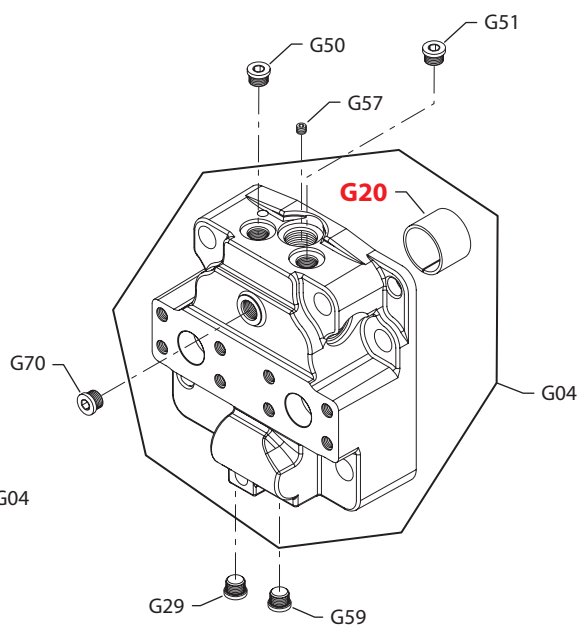
(F)



(G & Q)



(M)



E100 839E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

Parts Manual

Series 90 100 cc Axial Piston Motor

Fixed displacement motor

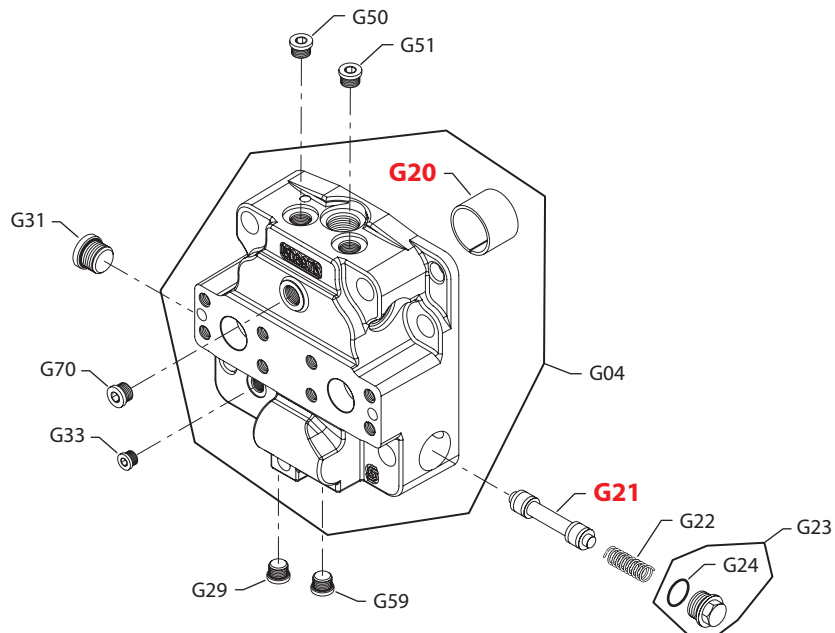
End cap

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F	G04	99-09		507659/P	End cap assembly, axial ports	1
	G20	99-09		11017304 (8700030)	Journal bearing	1
	G21	99-09		507587	Spool	1
	G22	99-09		507534	Spring	1
	G23	99-09		511926	Plug assembly	1
	G24	99-09		012559	O-ring	1
	G29	99-09		140644	Plug assembly	1
	G31	99-09		315325	Plug assembly	1
	G32	99-09		784942/P	Solenoid valve. 12v	1
	G50	99-09		140644	Plug assembly	1
	G51	99-09		140644	Plug assembly	1
	G59	99-09		140644	Plug assembly	1
	G70	99-09		140644	Plug assembly	1
	M200	99-09		785196	Coil, 12v, DIN connector	1
	QM34	99-09		11144220	Solenoid seal kit	1
	QM36	99-09		11144221	Coil nut	1
G	G04	98-02		11064118	End cap assembly, twin metric ports	1
	G20	98-02		11017304 (8700030)	Journal bearing	1
	G50	98-02		8700127	Diagnostic recepticle	1
	G51	98-02		8700127	Diagnostic recepticle	1
	G57	98-02		8700128	Dust cover	1
	G58	98-02		8700128	Dust cover	1
	G70	98-02		140644	Plug assembly	1
M	G04	98-02		11133008	End cap assembly, axial metric ports	1
	G20	98-02		11127356	Journal bearing	1
	G29	98-02		140644	Plug assembly	1
	G50	98-02		140644	Plug assembly	1
	G51	98-02		140644	Plug assembly	1
	G57	98-02		517100	Orifice plug	1
	G59	98-02		140644	Plug assembly	1
	G70	98-02		140644	Plug assembly	1
Q	G04	98-02		11064118	End cap assembly, twin metric ports	1
	G20	98-02		11017304 (8700030)	Journal bearing	1
	G50	98-02		8700127	Diagnostic recepticle	1
	G51	98-02		8700127	Diagnostic recepticle	1
	G57	98-02		8700128	Dust cover	1
	G58	98-02		8700128	Dust cover	1
	G70	98-02		140644	Plug assembly	1

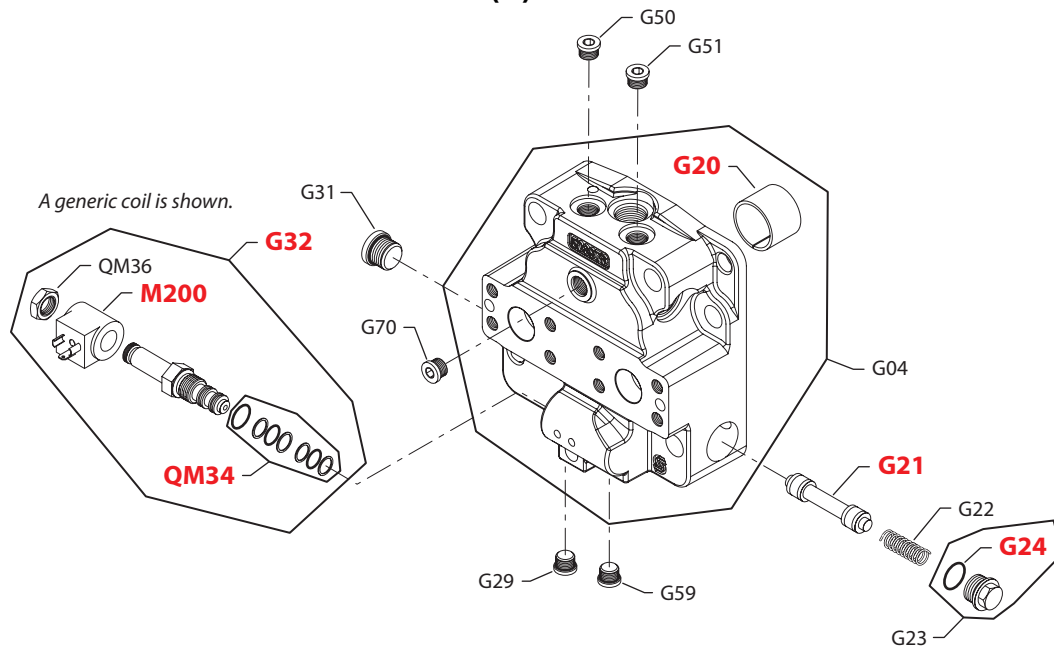


Fixed displacement motor

(T)



(U)



E103 017E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

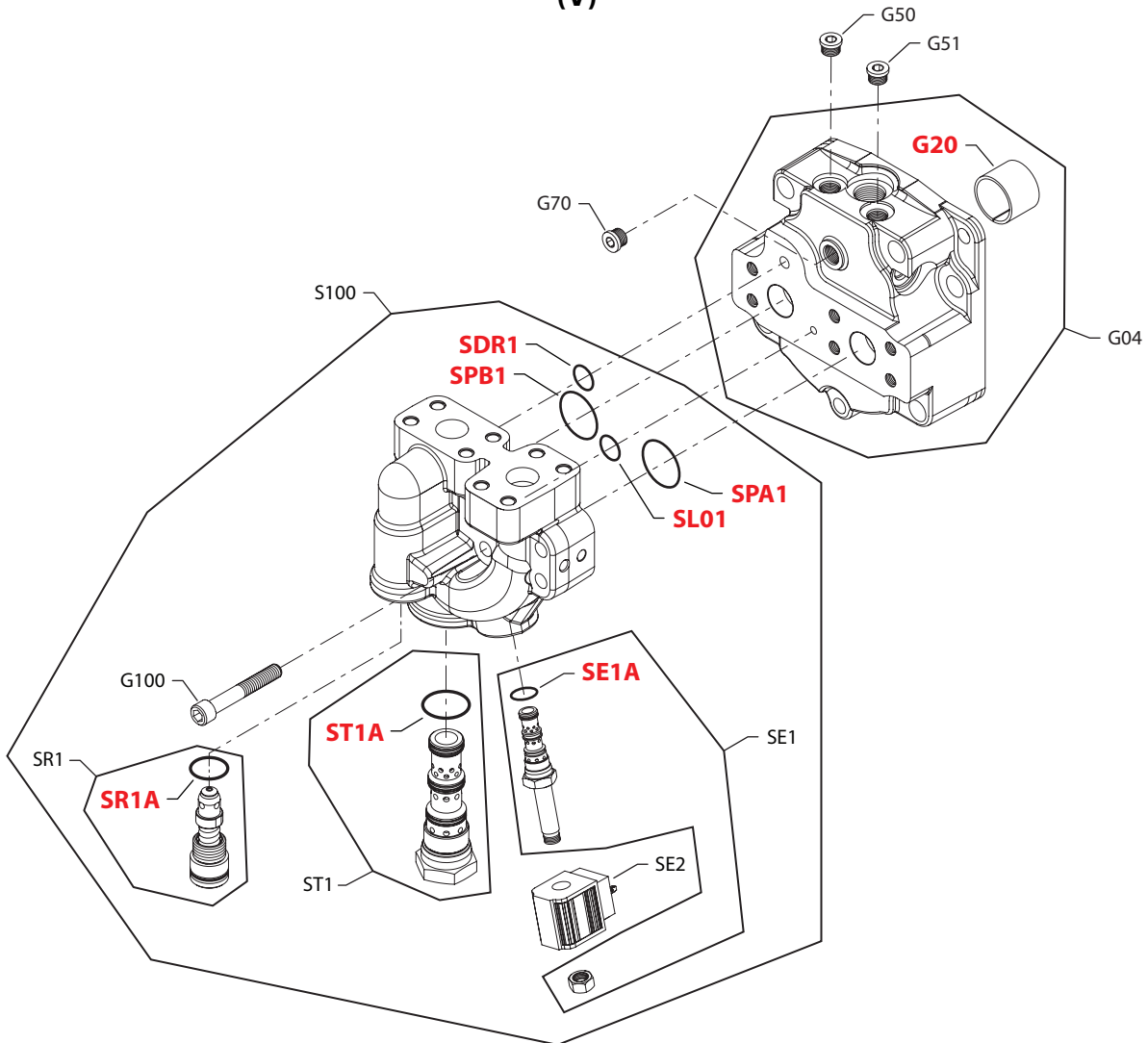
Fixed displacement motor
End cap

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T	G04	99-09		513899/P	End cap assembly, axial ports	1
	G20	99-09		11017304 (8700030)	Journal bearing	1
	G21	99-09		507587	Spool	1
	G22	99-09		507534	Spring	1
	G23	99-09		511926	Plug assembly	1
	G24	99-09		012559	O-ring	1
	G29	99-09		140644	Plug assembly	1
	G31	99-09		315325 (9005110-8700)	Plug assembly	1
	G33	99-09		327007 (9005110-4400)	Plug assembly	1
	G50	99-09		140644	Plug assembly	1
	G51	99-09		140644	Plug assembly	1
	G59	99-09		140644	Plug assembly	1
	G70	99-09		140644	Plug assembly	1
U	G04	99-09		516298/P	End cap assembly, axial	1
	G20	99-09		11017304 (8700030)	Journal bearing	1
	G21	99-09		507587	Spool	1
	G22	99-09		507534	Spring	1
	G23	99-09		511926	Plug assembly	1
	G24	99-09		012559	O-ring	1
	G29	99-09		140644	Plug assembly	1
	G31	99-09		315325	Plug assembly	1
	G32	99-09		517171/P	Solenoid valve, 12v	1
	G59	99-09		140644	Plug assembly	1
	G50	99-09		140644	Plug assembly	1
	G51	99-09		140644	Plug assembly	1
	G70	99-09		140644	Plug assembly	1
	M200	99-09		517167	Coil, 12v, Weather-Pack	1
	QM34	99-09		11144220	Solenoid seal kit	1
	QM36	99-09		11144221	Coil nut	1

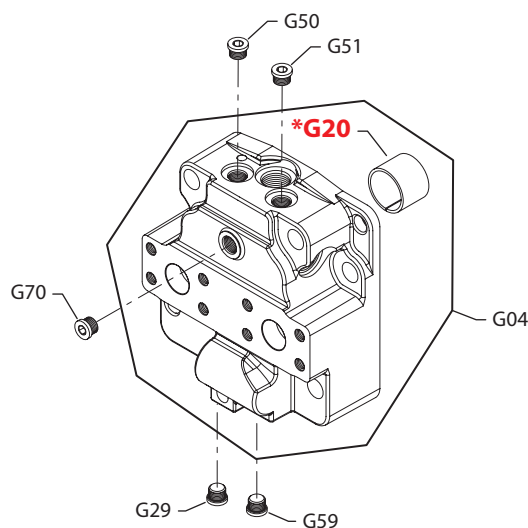


Fixed displacement motor

(V)



(W & X)



E103 018E

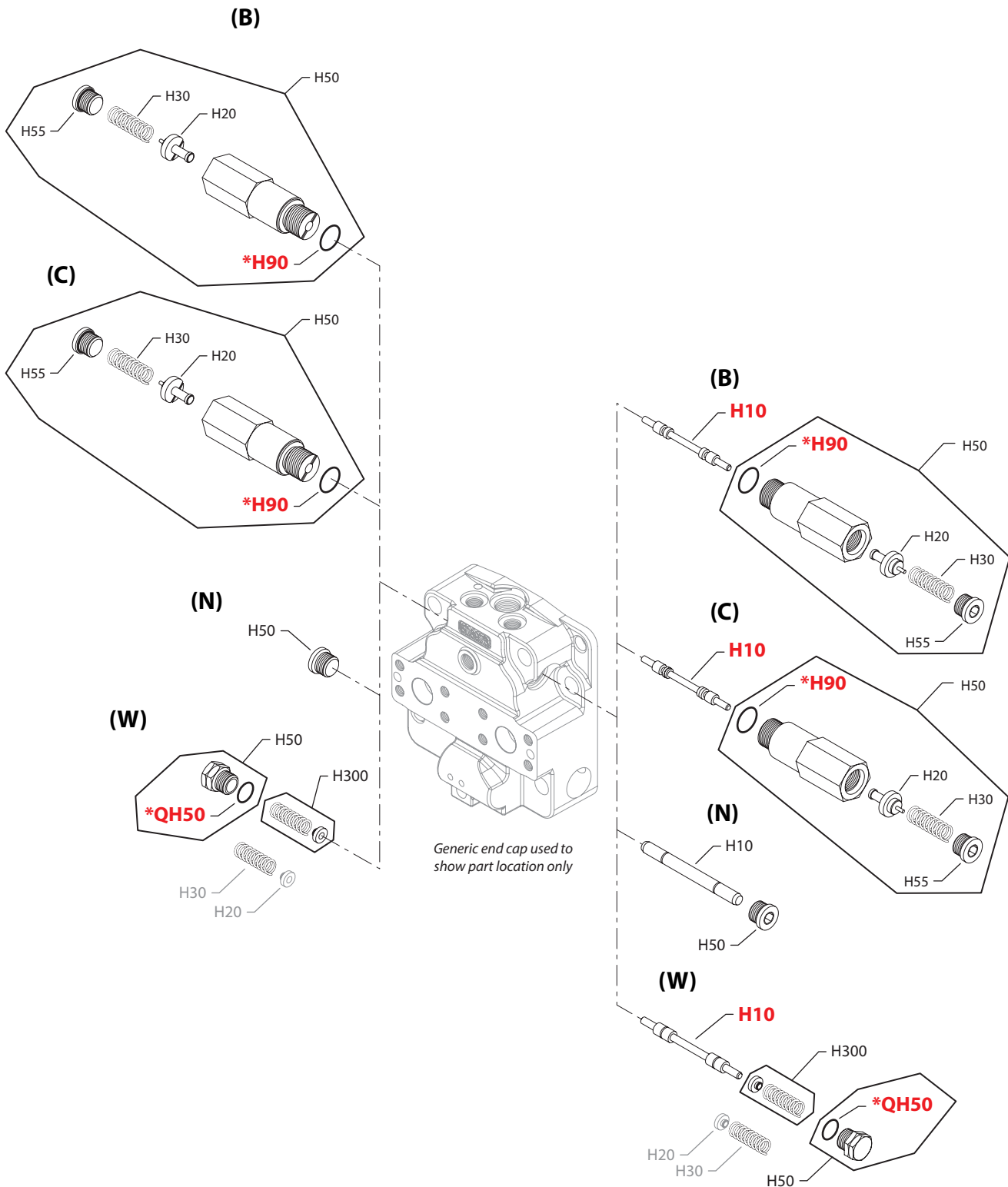
Enlarged **bold** type item numbers are recommended part to stock for servicing.

Fixed displacement motor
End cap

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
V	G04	98-02		518212/P	End cap assembly, axial ports	1
	G20	98-02		11017304 (8700030)	Journal bearing	1
	G50	98-02		140644	Plug assembly	1
	G51	98-02		140644	Plug assembly	1
	G70	98-02		140644	Plug assembly	1
	G100	98-02		9007300-4432	Screw	6
	S100	98-02		518083	Valve housing assembly	1
	SDR1	98-02		518149	O-ring	1
	SE1	98-02		518961	Solenoid pilot valve	1
	SE1A	98-02		516735	O-ring	1
	SE2	98-02		520344	Coil, 12v	1
	SL01	98-02		518149	O-ring	1
	SPA1	98-02		516756	O-ring	1
	SPB1	98-02		516756	O-ring	1
	SR1	98-02		516970	Valve	1
	SR1A	98-02		518151	O-ring	1
	ST1	98-02		518052	Bypass valve	1
	ST1A	98-02		518150	O-ring	1
W	G04	99-09		519388/P	End cap assy., axial ports	1
	G20	99-09		11017304 (8700030)	Journal bearing	1
	G29	99-09		140644	Plug assembly	1
	G50	99-09		140644	Plug assembly	1
	G51	99-09		140644	Plug assembly	1
	G59	99-09		140644	Plug assembly	1
	G70	99-09		140644	Plug assembly	1
X	G04	98-02		11040386	End cap assembly, axial ports	1
	G20	98-02		11017304 (8700030)	Journal bearing	1
	G29	99-09		140644	Plug assembly	1
	G50	99-09		140644	Plug assembly	1
	G51	99-09		140644	Plug assembly	1
	G59	99-09		140644	Plug assembly	1
	G70	99-09		140644	Plug assembly	1



Fixed displacement motor



E103 019E

* = included in overhaul seal kit Q210

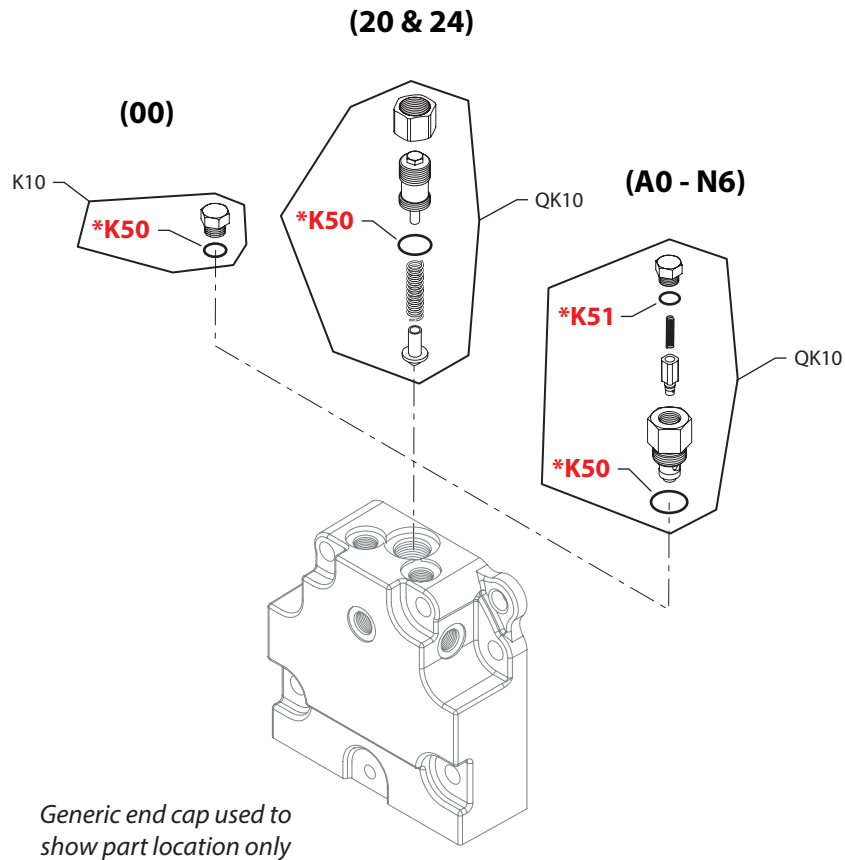
Enlarged **bold** type item numbers are recommended part to stock for servicing.

Fixed displacement motor
Loop flushing

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B	H10	00-14		516301	Loop flushing spool	1
	H20	00-14		517438	Spring guide	2
	H30	00-14		517439	Spring	2
	H50	00-14		517436	Spring cartridge assembly	2
	H55	00-14		140644	Plug assembly	1
	H90	00-14		085043 (9004201-3700)	O-ring	2
C	H10	03-16		519242	Loop flushing spool	1
	H20	03-16		517438	Spring guide	2
	H30	03-16		517439	Spring	2
	H50	03-16		517436	Spring cartridge assembly	2
	H55	03-16		140644	Plug assembly	1
	H90	03-16		085043 (9004201-3700)	O-ring	2
K	H10	89-38		365544 (8800550)	Shuttle spool	1
	H50	89-38		518016	Plug assembly	2
	H300	89-38		513596	Spring guide assembly (SB-2000-047)	2
	QH50	87-07		085043 (9004201-3700)	O-ring	2
N	H10	89-38		8800668	Loop flushing spool, defeated	1
	H10	87-07	89-37	308486 (8800021)	Loop flushing spool, defeated (SB-1989-020)	1
	H50	87-07		140644	Plug assembly	2
	H50A	87-07		085043 (9004201-3700)	O-ring	2
W	H10	89-38		365544 (8800550)	Shuttle spool	1
	H10	89-38	89-37	674473 (8800069)	Loop flushing spool (SB-1989-020)	1
	H20	87-07	89-37	674481 (8800265)	Spring guide (SB-1989-020)	2
	H30	87-07	89-37	8800067	Spring (SB-1989-020)	2
	H50	89-38		518016	Plug assembly	2
	H50	87-07	89-37	674507 (9005475-0069)	Plug assembly (SB-1989-020)	2
	H300	89-38		513596	Spring guide assembly (SB-2000-047)	2
	QH50	87-07		085043 (9004201-3700)	O-ring	2



Fixed displacement motor



E100 823E

* = included in overhaul seal kit Q210

Enlarged **bold** type item numbers are recommended part to stock for servicing.

Parts Manual

Series 90 100 cc Axial Piston Motor

Fixed displacement motor

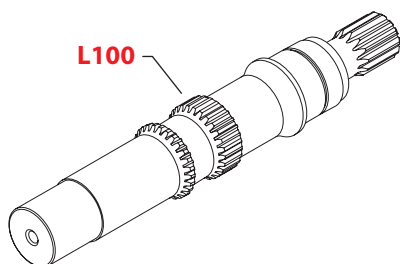
Charge pressure setting

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
00	K10	89-44		001537 (9005100-8700)	Plug assembly	1
	K50	89-44		001149 (9004201-6200)	O-ring	1
20-24	K000	90-20		8510012	Adjustable charge relief valve kit (SB-1989-020)	1
	K50	90-20		001149 (9004201-6200)	O-ring	1
A0	QK10	98-19		8510253	Cartridge CPRV kit, 13 bar, 11 L/min	1
	K50	98-19		001149 (9004201-6200)	O-ring	1
	K51	98-19		085043 (9004201-3700)	O-ring	2
A3	QK10	98-19		8510256	Cartridge CPRV kit, 13 bar, 16 L/min	1
	K50	98-19		001149 (9004201-6200)	O-ring	1
	K51	98-19		085043 (9004201-3700)	O-ring	2
E4	QK10	98-19		8510261	Cartridge CPRV kit, 16 bar, 4 L/min	1
	K50	98-19		001149 (9004201-6200)	O-ring	1
	K51	98-19		085043 (9004201-3700)	O-ring	2
E6	QK10	98-19		8510252	Cartridge CPRV kit, 16 bar, 7 L/min	1
	K50	98-19		001149 (9004201-6200)	O-ring	1
	K51	98-19		085043 (9004201-3700)	O-ring	2
F0	QK10	98-19		8510259	Cartridge CPRV kit, 16 bar, 11 L/min	1
	K50	98-19		001149 (9004201-6200)	O-ring	1
	K51	98-19		085043 (9004201-3700)	O-ring	2
F3	QK10	98-19		8510262	Cartridge CPRV kit, 16 bar, 16 L/min	1
	K50	98-19		001149 (9004201-6200)	O-ring	1
	K51	98-19		085043 (9004201-3700)	O-ring	2
G0	QK10	98-19		8510260	Cartridge CPRV kit, 16 bar, 22 L/min	1
	K50	98-19		001149 (9004201-6200)	O-ring	1
	K51	98-19		085043 (9004201-3700)	O-ring	2
G3	QK10	98-19		8510263	Cartridge CPRV kit, 16 bar, 27 L/min	1
	K50	98-19		001149 (9004201-6200)	O-ring	1
	K51	98-19		085043 (9004201-3700)	O-ring	2
N4	QK10	98-19		8510255	Cartridge CPRV kit, 13 bar, 4 L/min	1
	K50	98-19		001149 (9004201-6200)	O-ring	1
	K51	98-19		085043 (9004201-3700)	O-ring	2
N6	QK10	98-19		11097072	Cartridge CPRV kit, 13 bar, 7 L/min	1
	K50	98-19		001149 (9004201-6200)	O-ring	1
	K51	98-19		085043 (9004201-3700)	O-ring	2



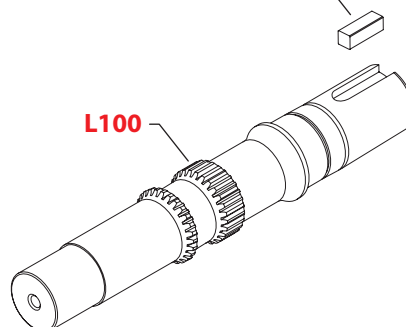
Fixed displacement motor

(C6, C7, F1,
G7 & S1)

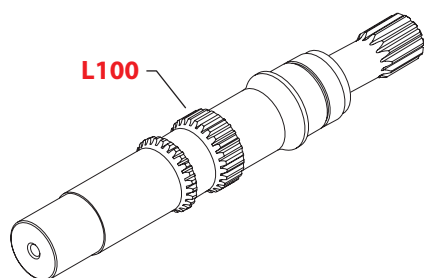


(K3)

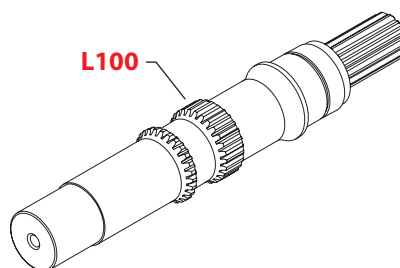
L80



(L1)



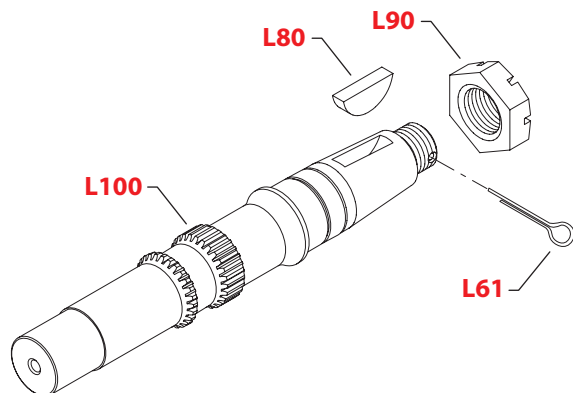
(S5)



(T2)

L80

L90

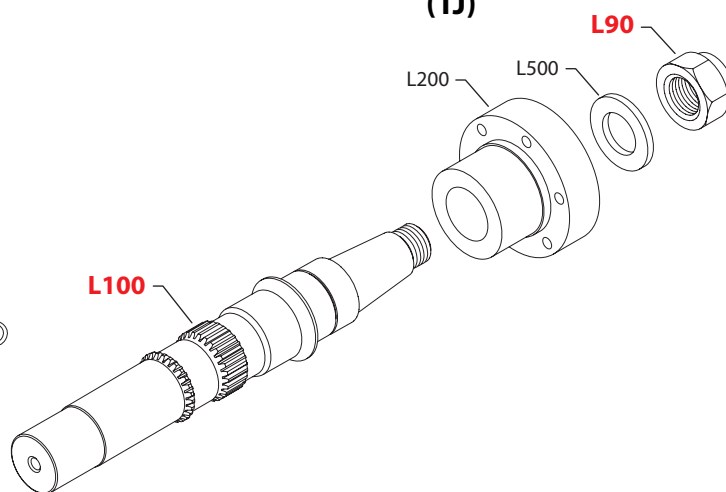


(TJ)

L90

L200

L500



E100 775E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

Fixed displacement motor
Shaft

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C6	L100	87-07		11045036	Shaft, 21 tooth spline, 16/32	1
C7	L100	87-07		8200591	Shaft, 23 tooth spline, 16/32	1
F1	L100	87-07		8200597	Shaft, 13 tooth spline, 8/16	1
G7	L100	05-21		8200591	Shaft, 23 tooth spline, 16/32	1
K3	L100	87-07		11012428	Shaft, straight key	1
	L80	87-07		9003261-3724	Key, .375 x 1.5	1
L1	L100	10-15		11081469	Shaft, 27 tooth spline, 12/24, special length	1
S1	L100	87-07		11012429	Shaft, 14 tooth spline, 12/24	1
S5	L100	87-07		11014534	Shaft, 17 tooth spline, 12/24	1
T2	L100	87-02		11014535	Shaft, tapered	1
	L61	87-02		9004600-1230	Cotter pin	1
	L80	87-02		9003310-3724	Woodruff key, .3730 x 1.5	1
	L90	87-02		5000606	Slotted nut	1
TJ	L90	97-47		504060	Nut	1
	L100	97-47		511785	Shaft, tapered	1
	L200	97-47		511462	Flange coupling	1
	L500	97-47		511627	Washer	1

Overhaul seal kit

Q210	87-07	11134055	Overhaul seal kit, 90M100, standard	1
G30	87-07	8200511	End cap gasket (SB-2001-011)	1
K51	87-07	085043 (9004201-3700)	O-ring	2
K50	89-44	001149 (9004201-6200)	O-ring	1
L25	87-07	521722	Seal carrier assembly	1
QB83	87-07	085043 (9004201-3700)	O-ring	1
QH50	87-07	085043 (9004201-3700)	O-ring	1



Service bulletin: SB-1988-018

Products affected

Series 90 fixed motors

Subject

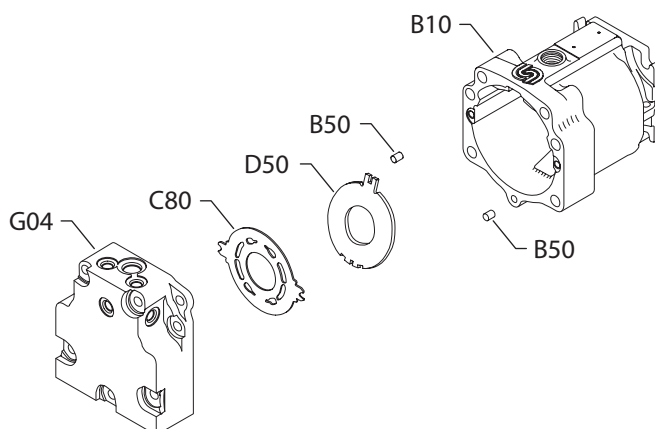
Dowel pin change

Description

A product change has occurred on Series 90 75 cc and 100 cc fixed displacement motors.

The dowel pins (item B50) have increased in diameter from 1/4" to 3/8". With this change, the dowel pin hole diameters in the end cap (item G04), housing (item B10), and the valve plate (item C80) have also changed. In addition, the thrust plate (item D50) in the 100 cc fixed displacement motor has also changed to fit the new housing.

This change creates spare parts non-interchangeability among all of the above mentioned parts. All of the affected parts remain available for the repair of any vintage Series 90 fixed motor. Refer to the date code portion of the serial number on the name plate of the motor being repaired when ordering parts.



Models affected

All 95-3xxx (75 cc) and 96-3xxx (100cc) series 90 fixed displacement motors

Serial numbers

Series 90 75 cc fixed motors, 95-3xxx, changed at serial number A-88-43-xxxxx.

Series 90 100 cc fixed motors, 96-3xxx, changed at serial number A-88-23-xxxxx.

Part numbers affected

Item*	Qty/ Motor	75 cc Prior to 88-43	75 cc From 88-43	100 cc Prior to 88-23	100 cc From 88-23
G04 (axial)	1	8100233	8100306	8200123	8200152
G04 (twin)	1	8100232	8100279	8200122	8200151
C80	1	8100095	8100278	8200103	8200134
D50	1	No Change	No Change	8200014	8200167
B50	2	9004800-2512	9004800-3708	9004800-3116	9004800-3708
B10	1	8100252	8100465	8200099	333641

Parts disposition

■ Non-interchangeable

Service bulletin: SB-1988-023

Products affected

Series 90 pumps and motors

Subject

Piston improvement

Description

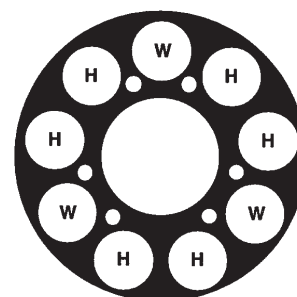
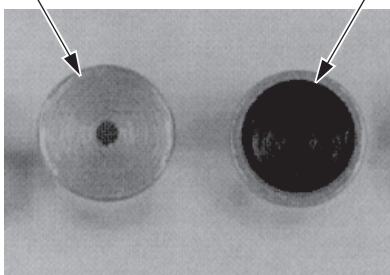
Product Information Bulletin PIB-8801 (March, 1988) announced the incorporation of fabricated (welded) piston assemblies, replacing non-fabricated (hollow) piston assemblies, in the cylinder blocks of all Series 90 pumps and motors. This change increases the overall efficiency of the Series 90 product line.

To simplify service parts inventory for all Series 90 units, only individual welded piston assemblies will be available as spare parts. The hollow pistons will be obsoleted. Part numbers for individual welded piston assemblies are listed in this bulletin.

Since all Series 90 pumps and motors have nine (9) pistons, welded pistons being used to replace hollow pistons during repair **MUST** be install in the cylinder block symmetrically, in multiples of three (3).

Welded Piston Assembly

Hollow Piston Assembly



When replacing hollow pistons with welded pistons, it is mandatory that the welded pistons be incorporated symmetrically in multiples of three.

Models affected

All series 90 pumps and motors: 93-xxxx, 94-xxxx, 95-xxxx, and 96-xxxx pumps

Serial numbers

Welded pistons will be incorporated into all series 90 pumps and motors by the end of the first quarter of 1998.

Part numbers affected

Part number	Description
706101	Piston assembly, welded - 42 cc
367672	Piston assembly, welded - 55 cc
708230	Piston assembly, welded - 75 cc
364000	Piston assembly, welded - 100 cc

Parts disposition

■ Interchangeable



Service bulletin: SB-1989-020

Products affected

Series 90 fixed displacement motors

Subject

Incorporation of adjustable charge relief valve

Description

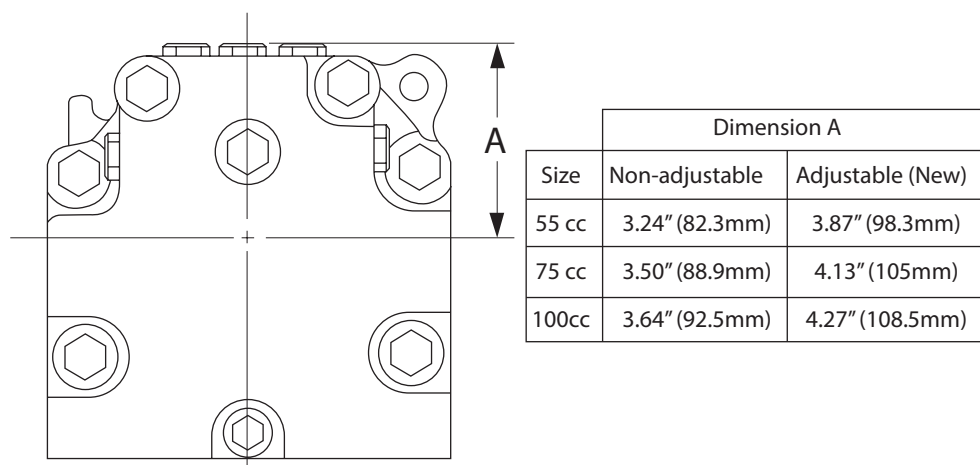
As a product improvement, Danfoss is incorporating an externally adjustable charge relief valve on all series 90 fixed displacement motors. This design replaces the previous shimmed relief valve. The new design valve provides a range of pressure adjustment from 10 to 32 bar.

The diameter of the loop flushing shuttle spool increases from .25" (6.35mm) to .375" (9.53mm) at the same incorporation date as the charge relief valve change.

This is a non-interchangeable change. Adjustable style charge relief valves can not be added to motors manufactured before this incorporation date. Old style end caps, which house the charge relief and loop flushing valves, will not be available as service parts. If new end caps are required, new style charge relief and loop flushing parts must also be installed.

Charge relief valve adjustment procedures can be found in the Series 90 Service Manual (BLN-9947 Rev. B). Charge pressure increases/decreases at the rate of 78 psi (5.4 bar) per turn clockwise/counterclockwise.

The new style charge relief plug protrudes from the motor end cap approximately .63" (16mm) farther than the shimmed design. New dimensions from the center line to the top of the charge relief valve plug are shown below.



Service bulletin: SB-1989-020

Models affected

All 94-3xxx, 95-3xxx, and 96-3xxx fixed displacement motors

Serial numbers affected

All 55 cc motors (94-3xxx) will change at s/n A-89-38-xxxxx

All 75 cc motors (95-3xxx) will change at s/n A-89-44-xxxxx

Part numbers affected

All 100 cc motors (96-3xxx) will change at s/n A-90-20-xxxxx

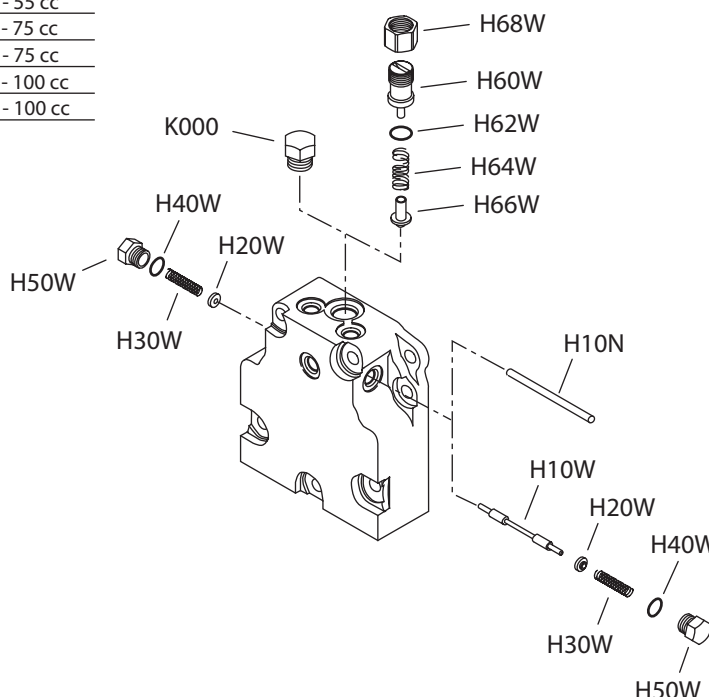
Charge relief and loop flushing hardware for old vintage motors can be found in the Series 90 Parts Manual (520L0890). The new part numbers are as follows:

New charge relief and loop flushing hardware

Item	Part number	Description	Qty
K90	9003575-0101	Nut	1
K10	8800488-1000	Plug assembly	1
K50	9004201-6200	O-ring	1
K70	8800476	Spring	1
K80	8800449	Poppet	1
K000	9005100-8700	Plug assembly	1
H10	8800550	Shuttle valve spool	1
H20	8800551	Washer	2
H30	364950	Spring	2
H40	9004201-3700	O-ring	2
H50	9005475-0097	Plug assembly	2
H10	8800552	Loop flushing spool, defeated	1

New end caps

Part number	Description
8000196	Twin port - 55 cc
8000197	Axial port - 55 cc
8100373	Twin port - 75 cc
8100374	Axial port - 75 cc
8200188	Twin port - 100 cc
8200189	Axial port - 100 cc



Parts disposition

■ Non-interchangeable



Service bulletin: SB-1998-007

Products affected

Series 90 55cc, 75cc, and 100cc fixed displacement motors, and 55cc and 75cc variable displacement motors

Subject

Charge relief seat

Description

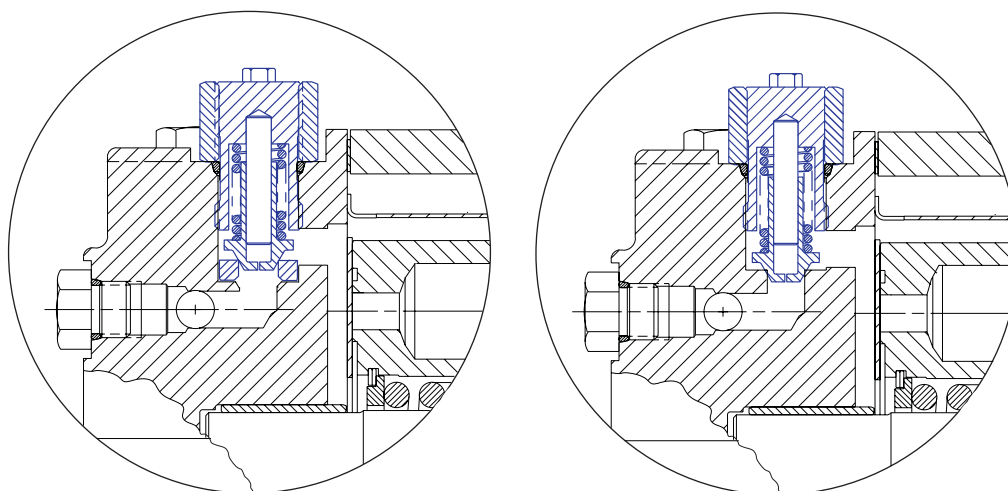
Danfoss has initiated a change to the end caps used on series 90 55cc, 75cc, and 100cc fixed displacement motors, and the series 90 55cc and 75cc variable displacement motors.

Currently, the end caps used on these motors contain a pressed in insert, which serves as a seat for the charge pressure relief valve assembly. The insert was originally introduced to provide a suitable wear surface for the charge pressure relief valve poppet.

Since the original design, a number of changes to the charge pressure relief valve design have reduced the severity of the wear characteristics between the poppet and relief seat. These changes have now made it possible to remove the insert from the end cap assembly. The design of the motor end cap has been modified in a manner that allows the charge relief poppet to seat directly against the casting machined surface.

The removal of the insert was initially introduced with the series 90 130cc motors in 1995, and with this change a more uniform product family is achieved.

To aid in identifying and tracking this change, Danfoss has released new end cap part numbers. The new end cap is directly interchangeable with the previous end cap and with adjustable charge pressure relief valve components. The previous end cap part numbers will no longer be available as service parts. Page 2 of this bulletin provides part number cross-reference information.



Service bulletin: SB-1998-007
Models affected

All 94-3xxx, 943xxxx, 95-3xxx, 953xxxx, 96-3xxx, and 963xxxx fixed displacement motors

All 94-4xxx, 944xxxx, 95-4xxx, 954xxxx variable displacement motors

Serial numbers affected

Change became effective with s/n A-98-34-xxxxx and beyond

Part numbers affected

Motor type	Displacement	Order code	Porting	Split flange thread	Prior to 98-34	Current
Fixed	55 cc	D	Twin	Metric	8000417	8000593
Fixed	55 cc	1 & 8	Twin	English	8000196	8000594
Fixed	55 cc	3 & 7	Axial	English	8000197	8000596
Variable	55 cc	R	Twin	Metric	8000356	8000598
Variable	55 cc	1 & 8	Twin	English	8000335	8000599
Fixed	75 cc	D	Twin	Metric	8100576	8100731
Fixed	75 cc	1 & 8	Twin	English	8100373	8100733
Fixed	75 cc	3 & 7	Axial	English	8100374	8100734
Variable	75 cc	1 & 8	Twin	English	8100442	8100737
Fixed	100 cc	E	Twin	English	8200319	8200407
Fixed	100 cc	1 & 8	Twin	English	8200188	8200408
Fixed	100 cc	3 & 7	Axial	English	8200189	8200409

Parts disposition

■ Interchangeable



Service bulletin: SB-1999-036

Products affected

Series 90100cc fixed displacement motors

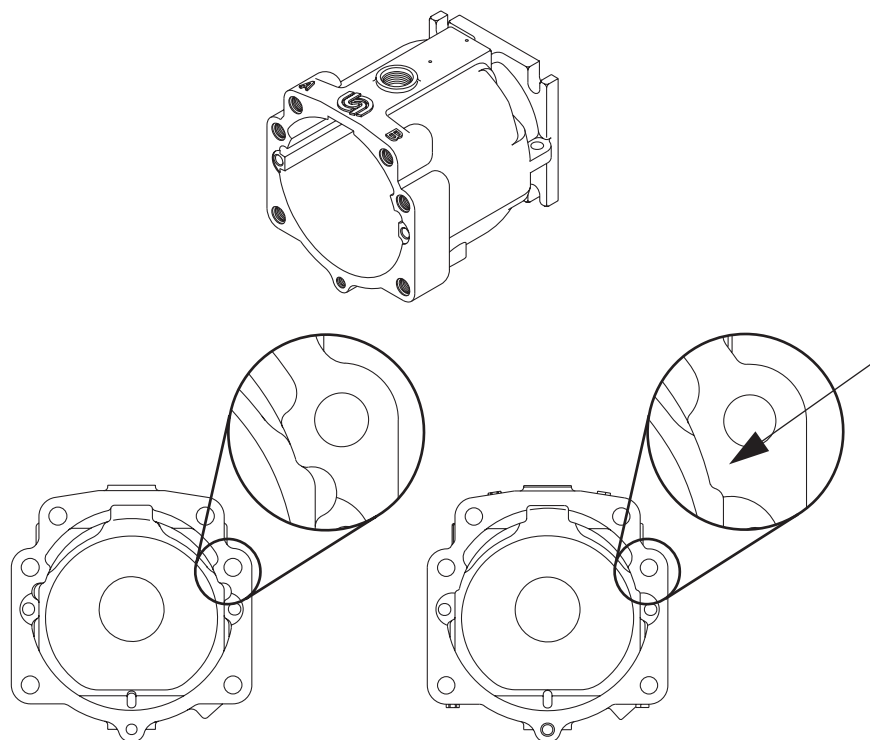
Subject

Motor housing change

Description

Danfoss has introduced a design change to the motor housings used on all series 90 100cc fixed displacement motors. The housing strength has been increased in the area of the casting ribs, by increasing the size of the rib. This change will reduce the potential for cracking the rib of the housing when tightening the two shorter end cap bolts.

To assist in identifying this change, Danfoss has released a new housing part number. The new housing is completely interchangeable with the previous housing. The previous housing has been obsoleted and is no longer available.



Models affected

All 96-3xxx, and 963xxxx fixed displacement motors.

Serial numbers

Danfoss Ames Production - Effective on motor serial number A-99-44-xxxxx
 Danfoss Neumunster Production - Effective on motor serial number N-99-45-xxxxx.
 Danfoss Shanghai Production- effective during the fourth quarter of 2000.

Part numbers affected

Description	Previous Housing	New Housing
motor housing - MF	8200230	8200447

Parts disposition

■ Interchangeable

Service bulletin: SB-2000-047

Products affected

Series 90 42cc, 55cc, 75cc, and 100cc fixed displacement motors, and 55cc and 75cc variable displacement motors

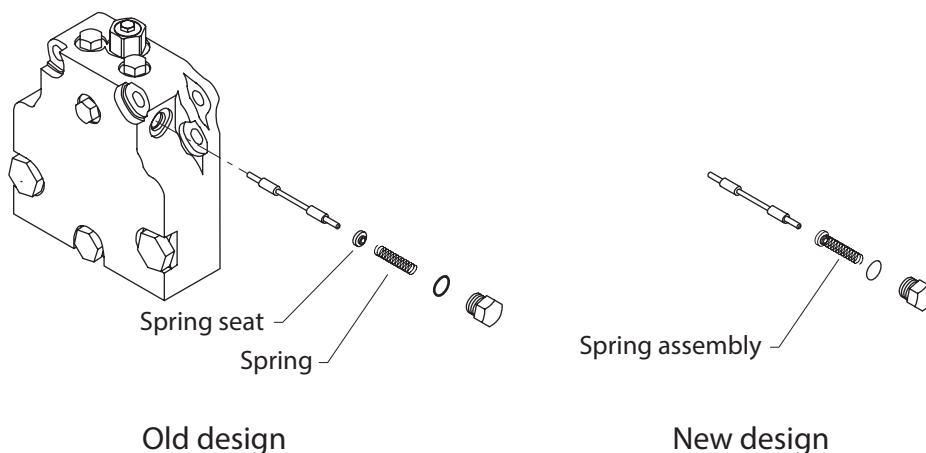
Subject

Loop flushing spring and spring seat change

Description

As a product improvement, Danfoss has changed the design of the spring and spring seat for the series 90 42cc, 55cc, 75cc, and 100cc fixed and variable displacement motors. The old design used a separate spring and spring seat. The new design incorporates the two parts into a one piece assembly. This makes the assembly of the spring and spring seat onto the spool much easier than the previous design.

Since the new spring assembly has a high spring rate than the previous spring, this is an interchangeable change only if both springs and spring seats are replaced at the same time. Danfoss has issued a new part number for the spring assembly. The previous spring seat and spring remain valid service parts since they are used on other Danfoss products.



Models affected

All 93-3xxx, 933xxxx, 94-3xxx, 943xxxx, 95-3xxx, 953xxxx, 96-3xxx, and 963xxxx fixed displacement motors with loop flushing options of A, B, or C.

All 94-4xxx, 944xxxx, 95-4xxx, and 954xxxx variable displacement motors with loop flushing options of A, B, or C.

Serial numbers

Danfoss Ames, la production - Change effective at s/n A-02-03-xxxxx.

Danfoss Neumunster, Germany production - Change effective at s/n N-01-08-xxxxx..

Part numbers affected

Previous spring seat	Previous spring	New spring assembly
8800551	4350286	513596

Parts disposition

■ Interchangeable



Service bulletin: SB-2001-011

Products affected

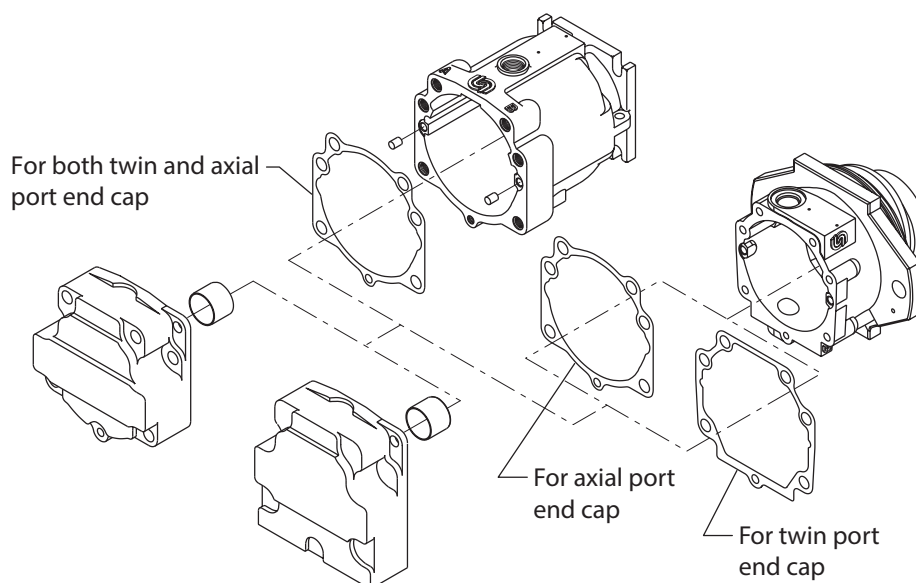
Series 90 55cc, 75cc, and 100cc fixed displacement motors

Subject

Change to end cap gasket material

Description

The end cap gasket material has changed. Danfoss has issued new end cap gasket part numbers. The previous part numbers are obsolete. They are no longer available for service.



Models affected

All 94-3xxx, 943xxxx, 95-3xxx, 953xxxx, 96-3xxx, and 963xxxx fixed displacement motors.

Serial numbers

Danfoss Ames, la production - Change effective at s/n A-01-19-xxxxx.

Danfoss Neumunster, Germany production - Change effective at s/n N-01-19-xxxxx..

Part numbers affected

Frame size	Mounting flange (end cap porting)	Previous end cap gasket	New end cap gasket
55 cc	SAE (all), cartridge (axial)	8000167	8000721
55 cc	Cartridge (twin)	8000603	8000720
75 cc	SAE (all), cartridge (axial)	8100311	8100875
75 cc	Cartridge (twin)	8100749	8100874
100 cc	Sae (all)	8200102	8200511

This change also affects these service kits: 80030S030, 81030S30, and 82030S30

Parts disposition

■ Interchangeable

Service bulletin: SB-2002-048

Products affected

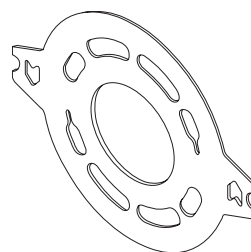
Series 90 55cc pumps and motors, and 75 - 100 cc motors

Subject

Consolidation of valve plate part numbers

Description

Danfoss has consolidated the part numbers for some of the series 90 pump and motor valve plates. Our plant in Germany has been producing the valve plates for series 90 pumps and motors since August 7, 2001. The U.S. plant has its part number for these valve plates as the German plant has its part number. The U.S. plant will now use the German part number. This obsoletes the U.S. part numbers. Since the parts are the same, the part number are interchangeable.



Models affected

All series 90 75 cc pumps and motors, 75 cc motors, and 100 cc motors.

Serial numbers

This change became effective at s/n A-02-46-xxxxx.

Part numbers affected

Description	Old part number	New part number
Valve plate, 75 cc pump	8000071	314427
Valve plate, 75 cc motor	8000132	329748
Valve plate, 75 cc motor	8100278	323766
Valve plate, 100 cc motor	8200134	324137

Parts disposition

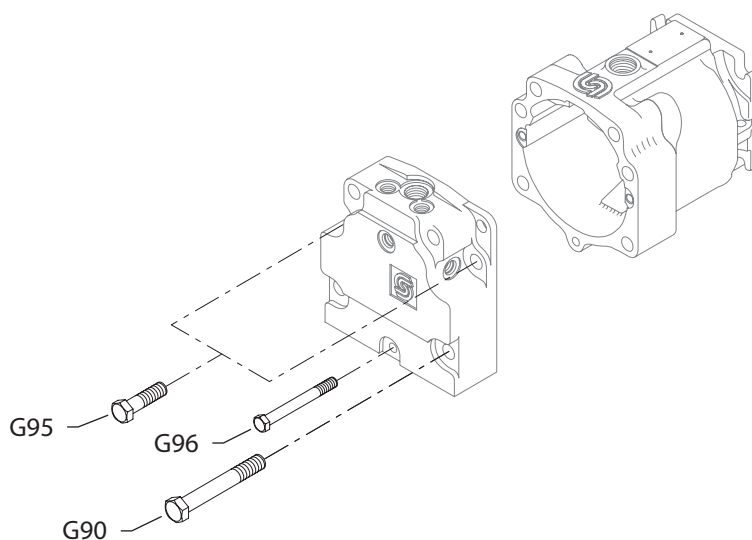
■ Non-interchangeable

Service bulletin: SB-2003-010

Products affected Series 90 100 cc fixed displacement motors

Subject Housing change to accept long screws

Description Danfoss has changed the housing used in series 90 100 cc fixed motors. Material was added at the area of the two shorter end cap mounting screws (G95). The hole for these screws is now deeper to accept the longer screw (G90) that is used for the other four large end cap mounting screws. The six larger screws will have the same stretch and therefore the same clamping force for the gasket sealing area. The smaller end cap mounting screw (G96) remains the same. The "old" housing and the short screws will become obsolete and no longer available for service.



Models affected All series 90 100 cc fixed displacement motors

Serial numbers US production started on 5 April 2004 (s/n A-04-15-xxxxx)

Part numbers affected

Description	Old part number	New part number
Housing	8200447	8200509
Screw (G95)	9007210-1609	9007210-1617

Parts disposition ■ Non-interchangeable

**Notes**



Products we offer:

- Bent Axis Motors
- Closed Circuit Axial Piston Pumps and Motors
- Displays
- Electrohydraulic Power Steering
- Electrohydraulics
- Hydraulic Power Steering
- Integrated Systems
- Joysticks and Control Handles
- Microcontrollers and Software
- Open Circuit Axial Piston Pumps
- Orbital Motors
- PLUS+1® GUIDE
- Proportional Valves
- Sensors
- Steering
- Transit Mixer Drives

Danfoss Power Solutions is a global manufacturer and supplier of high-quality hydraulic and electronic components. We specialize in providing state-of-the-art technology and solutions that excel in the harsh operating conditions of the mobile off-highway market. Building on our extensive applications expertise, we work closely with our customers to ensure exceptional performance for a broad range of off-highway vehicles.

We help OEMs around the world speed up system development, reduce costs and bring vehicles to market faster.

Danfoss – Your Strongest Partner in Mobile Hydraulics.

Go to www.powersolutions.danfoss.com for further product information.

Wherever off-highway vehicles are at work, so is Danfoss.

We offer expert worldwide support for our customers, ensuring the best possible solutions for outstanding performance. And with an extensive network of Global Service Partners, we also provide comprehensive global service for all of our components.

Please contact the Danfoss Power Solution representative nearest you.

Comatrol

www.comatrol.com

Schwarzmüller-Inverter

www.schwarzmueller-inverter.com

Turolla

www.turollaocg.com

Valmova

www.valmova.com

Hydro-Gear

www.hydro-gear.com

Daikin-Sauer-Danfoss

www.daikin-sauer-danfoss.com

Local address:

**Danfoss
Power Solutions US Company**
2800 East 13th Street
Ames, IA 50010, USA
Phone: +1 515 239 6000

**Danfoss
Power Solutions GmbH & Co. OHG**
Krokamp 35
D-24539 Neumünster, Germany
Phone: +49 4321 871 0

**Danfoss
Power Solutions ApS**
Nordborgvej 81
DK-6430 Nordborg, Denmark
Phone: +45 7488 4444

**Danfoss
Power Solutions**
22F, Block C, Yishan Rd
Shanghai 200233, China
Phone: +86 21 3418 5200

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without consequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.