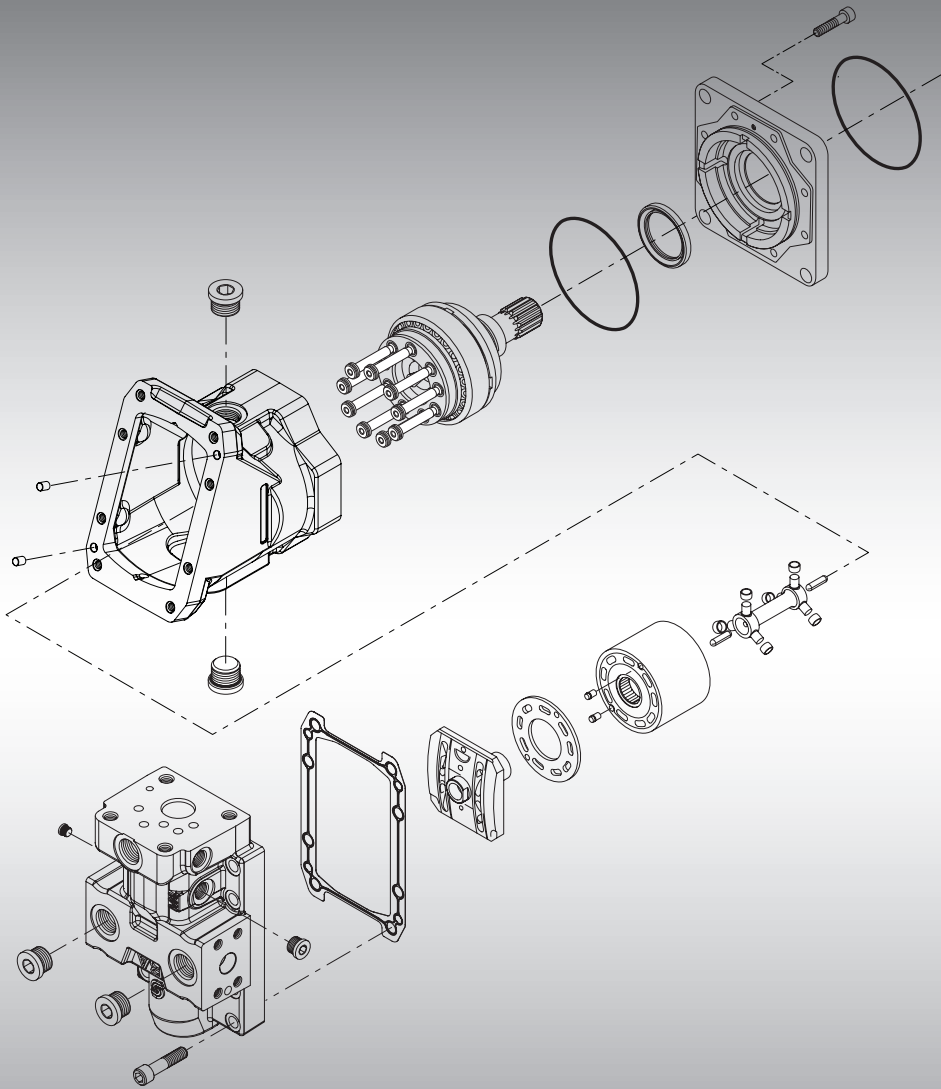




Parts Manual

Variable Displacement Motors Series 51-1: 60cc, 80cc and 110cc





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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 51-1 variable displacement motors.

The parts listed include all parts which may be used when performing either “Minor Repairs”, “Major Repairs” or “Conversions” on the Series 51-1 motors.

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). “N” indicates the unit was originally assembled in Neumuenster, Germany.

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 L40.

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Usage
V	L40	06-14		519021	Lip seal (SB-2005-012)	1
	L40	98-06	06-13	673525	Lip seal	1

All units using this order code with a date code of 98-06 and up to and including 06-13, must use part number "673525". All units with a date code of 06-14 and newer must use part number "519021".

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 L frame Reverse motors result 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: 664524 (9005110-9000), customers would order 9005110-9000 if ordering the part in the United States.)

Example of a part identification

The nameplate on a Series 51-1 motor has an Order Code of 51V080-1 R C7 N E1 B1 N N U1 NNN 038 AA F0 00 00. Use the following procedures to determine the part number of the drive shaft used on this motor.

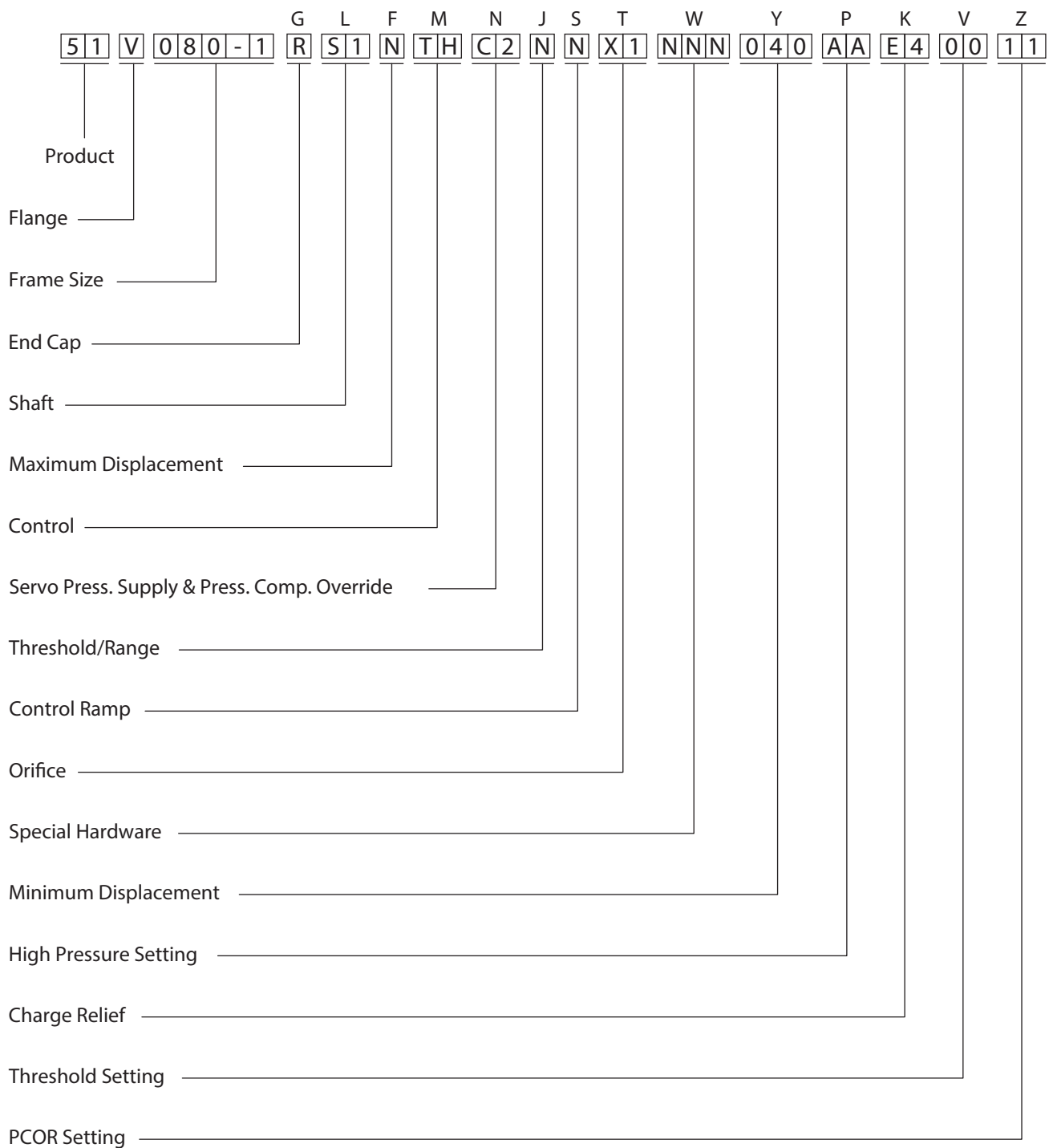
- 1) Referring to the shaft module in the Order Code (see page 7), the shaft option for this motor is identified by the code "C7". (51V080-1 R **C7** N E1 B1 N N U1 NNN 038 AA F0 00 00)
- 2) Referring to the Service Parts List, find the shaft group. Next find the order code that relates to this unit, which is "C7". The shaft is found to be item QL10 and part number 11100427 if a speed ring is not required. The shaft is found to be item QL11 and part number 11100428 if a speed ring is required.



Notes



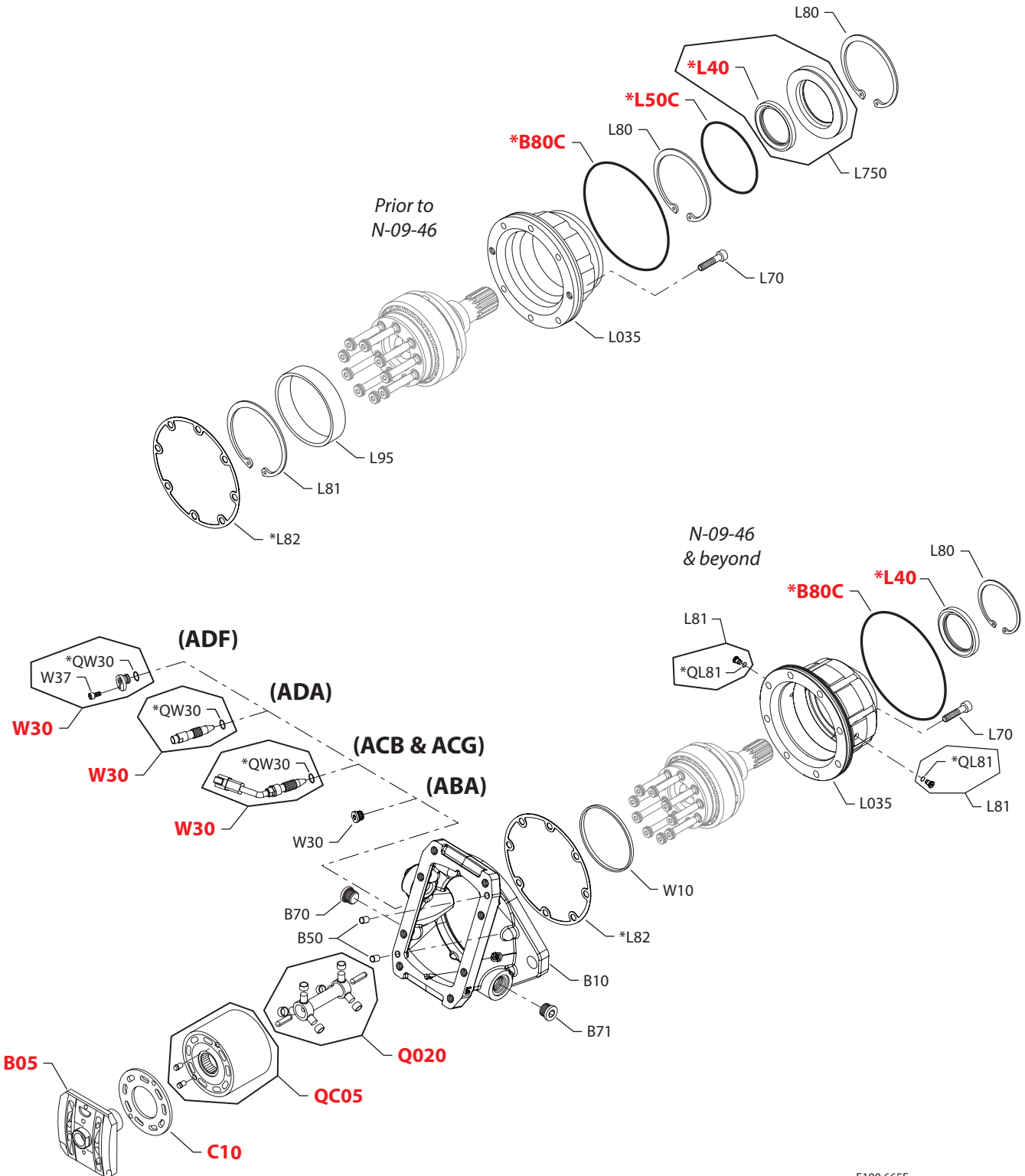
Order code



P100 538E



Variable Displacement Motor



E100 665E

* = included in base motor seal kit Q210

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


Variable Displacement Motor
Cartridge flange, 60cc common parts

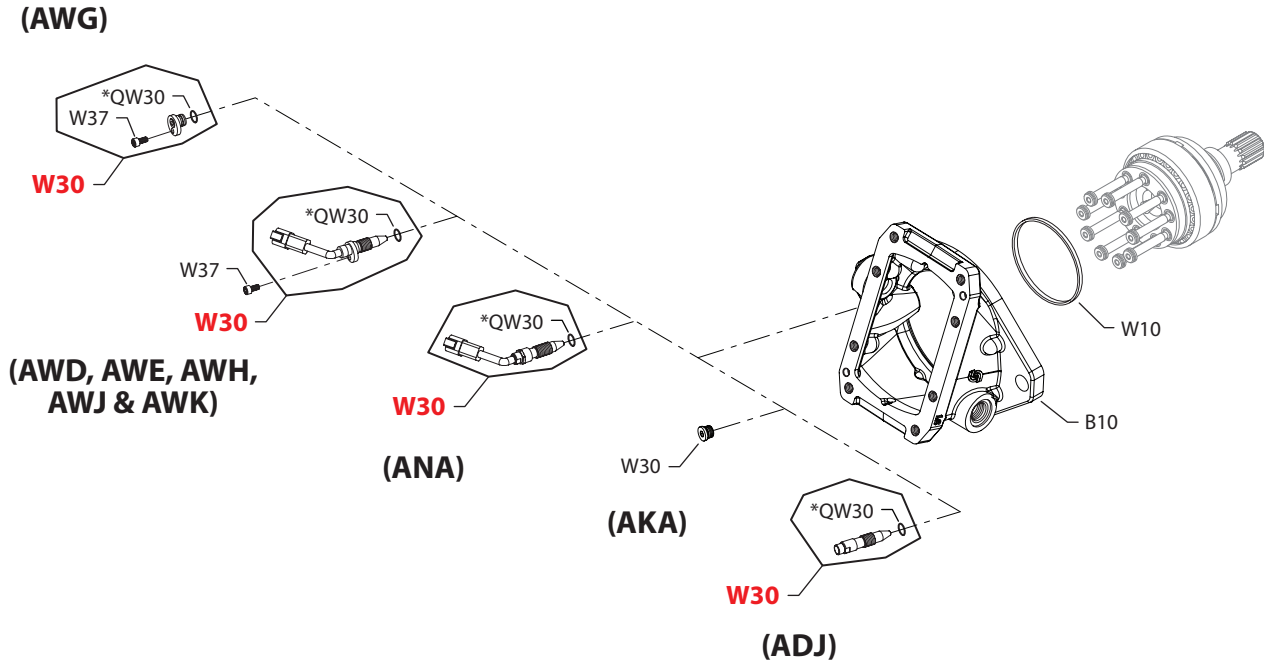
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
C	B05	98-06		507563	Valve segment	1
	B50	98-06		9004800-3708	Pin	2
	B70	98-06		664524 (9005110-9000)	Plug assembly	1
	B71	98-06		664524 (9005110-9000)	Plug assembly	1
	B80C	98-06		726927	O-ring	1
	C10	98-06		515366	Bearing plate	1
	L035	09-46		11038245	Bearing housing (SB-2009-006)	1
	L035	98-06	09-45	11009204	Bearing housing	1
	L40	06-23		519021	Lip seal	1
	L40	98-06	06-22	9008000-0114	Lip seal	1
	L50C	98-06	09-45	501879	O-ring (SB-2009-006)	1
	L70	98-06		710855	Screw, M8 X 35	8
	L80	09-46		915280	Retaining ring (SB-2009-006)	1
	L80	98-06	09-45	392456	Retaining ring	2
	L81	09-46		11056747	Shaft log (SB-2009-006)	2
	L81	98-06	09-45	501120	Retaining ring	1
	L82	98-06		501019	Gasket	1
	L95	98-06	09-45	501116	Distance ring (SB-2009-006)	1
	L750	98-06	09-45	510482	Seal carrier assembly (SB-2009-006)	1
	Q020	98-06		517308	Synch shaft kit (SB-2001-015)	1
	QC05	98-06		732719	Cylinder block assembly	1
	QL81	09-46		039297 (9004201-1200)	O-ring	2

Cartridge flange, 60cc special hardware

ABA	B10	98-06		501103	Housing with speed sensor port	1
	W10	98-06		11132980	Speed ring	1
	W30	98-06		140644	Plug assembly	1
ACB	B10	98-34		501103	Housing with speed sensor port	1
	QW30	98-34		085043 (9004201-3700)	O-ring	1
	W10	98-34		11132980	Speed ring	1
	W30	98-34		KPPG26408	Speed sensor	1
ACG	B10	03-38		501103	Housing with speed sensor port	1
	QW30	03-38		085043 (9004201-3700)	O-ring	1
	W10	03-38		11132980	Speed ring	1
	W30	03-38		KPPG22408	Speed sensor	1
ADA	B10	98-20		501103	Housing with speed sensor port	1
	QW30	98-20		085043 (9004201-3700)	O-ring	1
	W10	98-20		11132980	Speed ring	1
	W30	98-20		KPPG256	Speed sensor	1
ADF	B10	99-47		515888	Housing with speed sensor port	1
	QW30	99-47		085043 (9004201-3700)	O-ring	1
	W10	99-47		11132980	Speed ring	1
	W30	99-47		KPPG35808	Speed sensor	1
	W37	99-47		395822 (9007315-0603)	Screw, M6 X 12	1



Variable Displacement Motor



E100 666E

* = included in base motor seal kit Q210

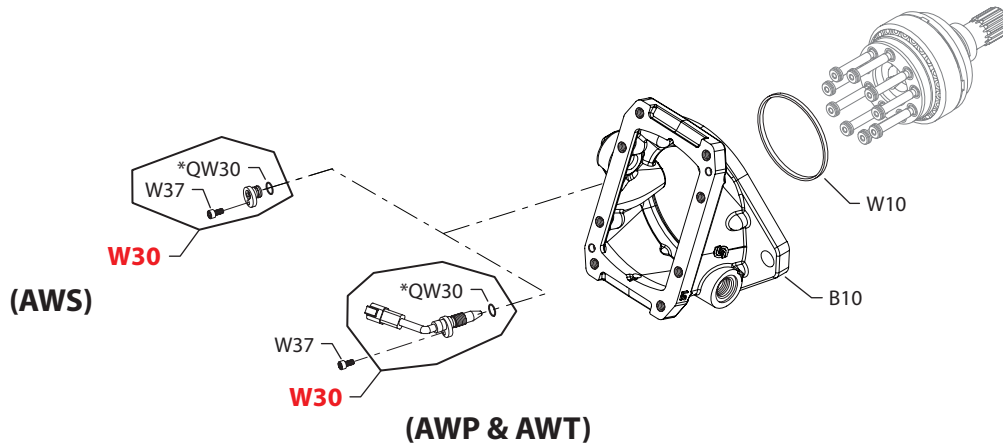
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
Cartridge flange, 60cc special hardware

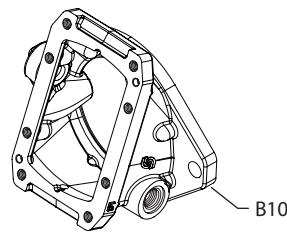
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
ADJ	B10	00-12		501103	Housing with speed sensor port	1
	QW30	00-12		085043 (9004201-3700)	O-ring	1
	W10	00-12		11132980	Speed ring	1
	W30	00-12		KPPG256	Speed sensor	1
AKA	B10	98-06		501103	Housing with speed sensor port	1
	W10	98-06		11132980	Speed ring	1
	W30	98-06		140644	Plug assembly	1
ANA	B10	08-06		501103	Housing with speed sensor port	1
	QW30	08-06		085043 (9004201-3700)	O-ring	1
	W10	08-06		11132980	Speed ring	1
	W30	08-06		KPPG23703	Speed sensor	1
AWD	B10	01-01		519235	Housing with speed sensor port	1
	QW30	01-01		085043 (9004201-3700)	O-ring	1
	W10	01-01		11132980	Speed ring	1
	W30	01-01		KPPG36708B	Speed sensor	1
	W37	01-01		395822 (9007315-0603)	Screw, M6 x 12	1
AWE	B10	01-01		519235	Housing with speed sensor port	1
	QW30	01-01		085043 (9004201-3700)	O-ring	1
	W10	01-01		11132980	Speed ring	1
	W30	01-01		KPPG36708B	Speed sensor	1
	W37	01-01		395822 (9007315-0603)	Screw, M6 x 12	1
AWG	B10	01-01		519235	Housing with speed sensor port	1
	QW30	01-01		085043 (9004201-3700)	O-ring	1
	W10	01-01		11132980	Speed ring	1
	W30	01-01		520997/P	Speed sensor plug assembly	1
	W37	01-01		395822 (9007315-0603)	Screw, M6 x 12	1
AWH	B10	01-01		519235	Housing with speed sensor port	1
	QW30	01-01		085043 (9004201-3700)	O-ring	1
	W10	01-01		11132980	Speed ring	1
	W30	01-01		KPPG36708B	Speed sensor	1
	W37	01-01		395822 (9007315-0603)	Screw, M6 x 12	1
AWJ	B10	01-01		515888	Housing with speed sensor port	1
	QW30	01-01		085043 (9004201-3700)	O-ring	1
	W10	01-01		11132980	Speed ring	1
	W30	01-01		KPPG37708	Speed sensor	1
	W37	01-01		395822 (9007315-0603)	Screw, M6 x 12	1
AWK	B10	01-01		515888	Housing with speed sensor port	1
	QW30	01-01		085043 (9004201-3700)	O-ring	1
	W10	01-01		11132980	Speed ring	1
	W30	01-01		KPPG36708B	Speed sensor	1
	W37	01-01		395822 (9007315-0603)	Screw, M6 x 12	1



Variable Displacement Motor



(DAA, DDB, DDF, DDH & NNN)



E103 200E

* = included in base motor seal kit Q210

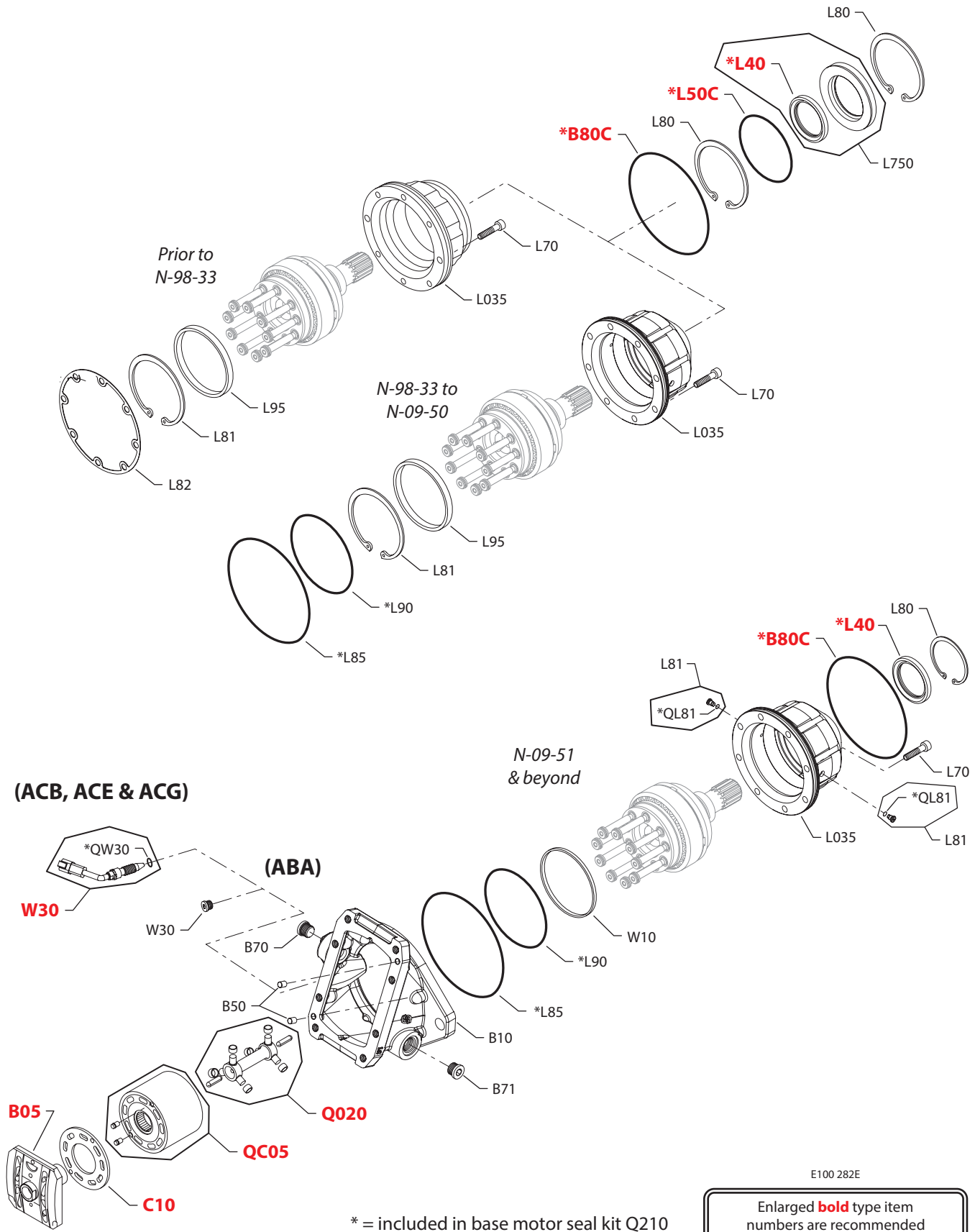
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
Cartridge flange, 60cc special hardware

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
AWP	B10	06-13		515888	Housing with speed sensor port	1
	QW30	06-13		085043 (9004201-3700)	O-ring	1
	W10	06-13		11132980	Speed ring	1
	W30	06-13		KPPG39708	Speed sensor	1
	W37	06-13		395822 (9007315-0603)	Screw, M6 x 12	1
AWS	B10	06-13		515888	Housing with speed sensor port	1
	QW30	06-13		085043 (9004201-3700)	O-ring	1
	W10	06-13		11132980	Speed ring	1
	W30	06-13		520997/P	Speed sensor plug assembly	1
	W37	06-13		395822 (9007315-0603)	Screw, M6 x 12	1
AWT	B10	07-28		519235	Housing with speed sensor port	1
	QW30	07-28		085043 (9004201-3700)	O-ring	1
	W10	07-28		11132980	Speed ring	1
	W30	07-28		11028312	Speed sensor	1
	W37	07-28		395822 (9007315-0603)	Screw, M6 x 12	1
DAA	B10	05-23		505526	Housing	1
DDB	B10	03-07		505526	Housing	1
DDF	B10	05-05		11000381	Housing, no minimum angle adjust port	1
DDH	B10	07-42		505526	Housing	1
NNN	B10	98-06		505526	Housing	1



Variable Displacement Motor



E100 282E

* = included in base motor seal kit Q210

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


Variable Displacement Motor
Cartridge flange, 80cc common parts

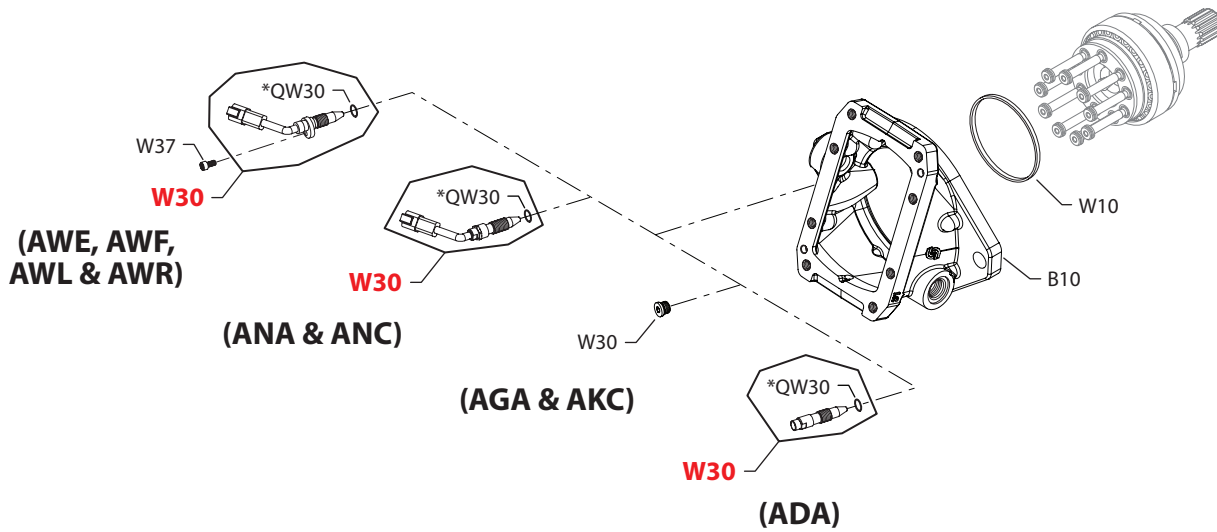
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
C	B05	98-06		507986	Valve segment	1
	B50	98-06		9004800-3708	Pin	2
	B70	98-06		664524 (9005110-9000)	Plug assembly	1
	B71	98-06		664524 (9005110-9000)	Plug assembly	1
	B80C	98-06		502205	O-ring	1
	C10	98-06		515367	Bearing plate	1
	L035	09-51		11038813	Bearing housing (SB-2009-005)	1
	L035	98-34	09-50	11009382	Bearing housing (SB-1998-086)	1
	L035	98-06	98-33	501109	Bearing housing	1
	L40	06-23		519021	Lip seal	1
	L40	98-06	06-22	9008000-0114	Lip seal	1
	L50C	98-06	09-50	501879	O-ring	1
	L70	98-06		710855	Screw	8
	L80	09-51		915280	Retaining ring (SB-2009-005)	1
	L80	98-06	09-50	392456	Retaining ring	2
	L81	09-51		11056747	Shaft log (SB-2009-005)	2
	L81	98-06	09-50	371625	Retaining ring (SB-2009-005)	1
	L82	98-06	98-33	507259	Gasket	1
	L85	98-34		11121325	O-ring (SB-1998-086)	1
	L90	98-34		512678	O-ring (SB-1998-086)	1
	L95	98-06	09-50	501117	Distance ring (SB-1998-086 & SB-2009-005)	1
	L750	98-06	09-50	510482	Seal carrier assembly (SB-2009-005)	1
	QC05	98-06		360362	Cylinder block assembly	1
	QL81	09-46		039297 (9004201-1200)	O-ring	2
	Q020	98-06		517309	Synch shaft kit (SB-2001-015)	1

Cartridge flange, 80cc special hardware

ABA	B10	98-40		512677	Housing with speed sensor port	1
	W10	98-40		11100013	Speed ring	1
	W30	98-40		140644	Plug assembly	1
ACB	B10	98-40		512677	Housing with speed sensor port	1
	QW30	98-40		085043 (9004201-3700)	O-ring	1
	W10	98-40		11100013	Speed ring	1
	W30	98-40		KPPG26408	Speed sensor	1
ACE	B10	01-36		512677	Housing with speed sensor port	1
	QW30	01-36		085043 (9004201-3700)	O-ring	1
	W10	01-36		11100013	Speed ring	1
	W30	01-36		KPPG26408	Speed sensor	1
ACG	B10	09-13		512677	Housing with speed sensor port	1
	QW30	09-13		085043 (9004201-3700)	O-ring	1
	W10	09-13		11100013	Speed ring	1
	W30	09-13		KPPG22408	Speed sensor	1



Variable Displacement Motor



E103 201E

* = included in base motor seal kit Q210

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

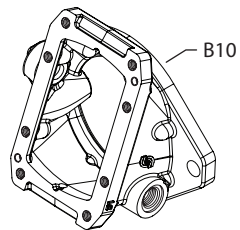

Variable Displacement Motor
Cartridge flange, 80cc special hardware

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
ADA	B10	98-30		512677	Housing with speed sensor port	1
	QW30	98-30		085043 (9004201-3700)	O-ring	1
	W10	98-30		11100013	Speed ring	1
	W30	98-30		KPPG256	Speed sensor	1
AGA	B10	98-34		512677	Housing with speed sensor port (SB-1998-086)	1
	W10	98-06		11100013	Speed ring	1
	W30	98-06		140644	Plug assembly	1
AKC	B10	00-04		512677	Housing with speed sensor port	1
	W10	00-04		11100013	Speed ring	1
	W30	00-04		140644	Plug assembly	1
ANA	B10	08-06		512677	Housing with speed sensor port	1
	QW30	08-06		085043 (9004201-3700)	O-ring	1
	W10	08-06		11100013	Speed ring	1
	W30	08-06		KPPG23703	Speed sensor	1
ANC	B10	02-13		512677	Housing with speed sensor port	1
	QW30	02-13		085043 (9004201-3700)	O-ring	1
	W10	02-13		11100013	Speed ring	1
	W30	02-13		KPPG26708	Speed sensor	1
AWE	B10	02-13		517815	Housing with speed sensor port	1
	QW30	02-13		085043 (9004201-3700)	O-ring	1
	W10	02-13		11100013	Speed ring	1
	W30	02-13		KPPG36708B	Speed sensor	1
	W37	02-13		395822 (9007315-0603)	Screw, M6 x 12	1
AWF	B10	02-13		517815	Housing with speed sensor port	1
	QW30	02-13		085043 (9004201-3700)	O-ring	1
	W10	02-13		11100013	Speed ring	1
	W30	02-13		KPPG36708B	Speed sensor	1
	W37	02-13		395822 (9007315-0603)	Screw, M6 x 12	1
AWL	B10	05-26		517815	Housing with speed sensor port	1
	QW30	05-26		085043 (9004201-3700)	O-ring	1
	W10	05-26		11100013	Speed ring	1
	W30	05-26		KPPG37708	Speed sensor	1
	W37	05-26		395822 (9007315-0603)	Screw, M6 x 12	1
AWR	B10	06-13		517815	Housing with speed sensor port	1
	QW30	06-13		085043 (9004201-3700)	O-ring	1
	W10	06-13		11100013	Speed ring	1
	W30	06-13		KPPG39708	Speed sensor	1
	W37	06-13		395822 (9007315-0603)	Screw, M6 x 12	1



Variable Displacement Motor

(DBA, DDB, DDD, DDE, DDH & NNN)





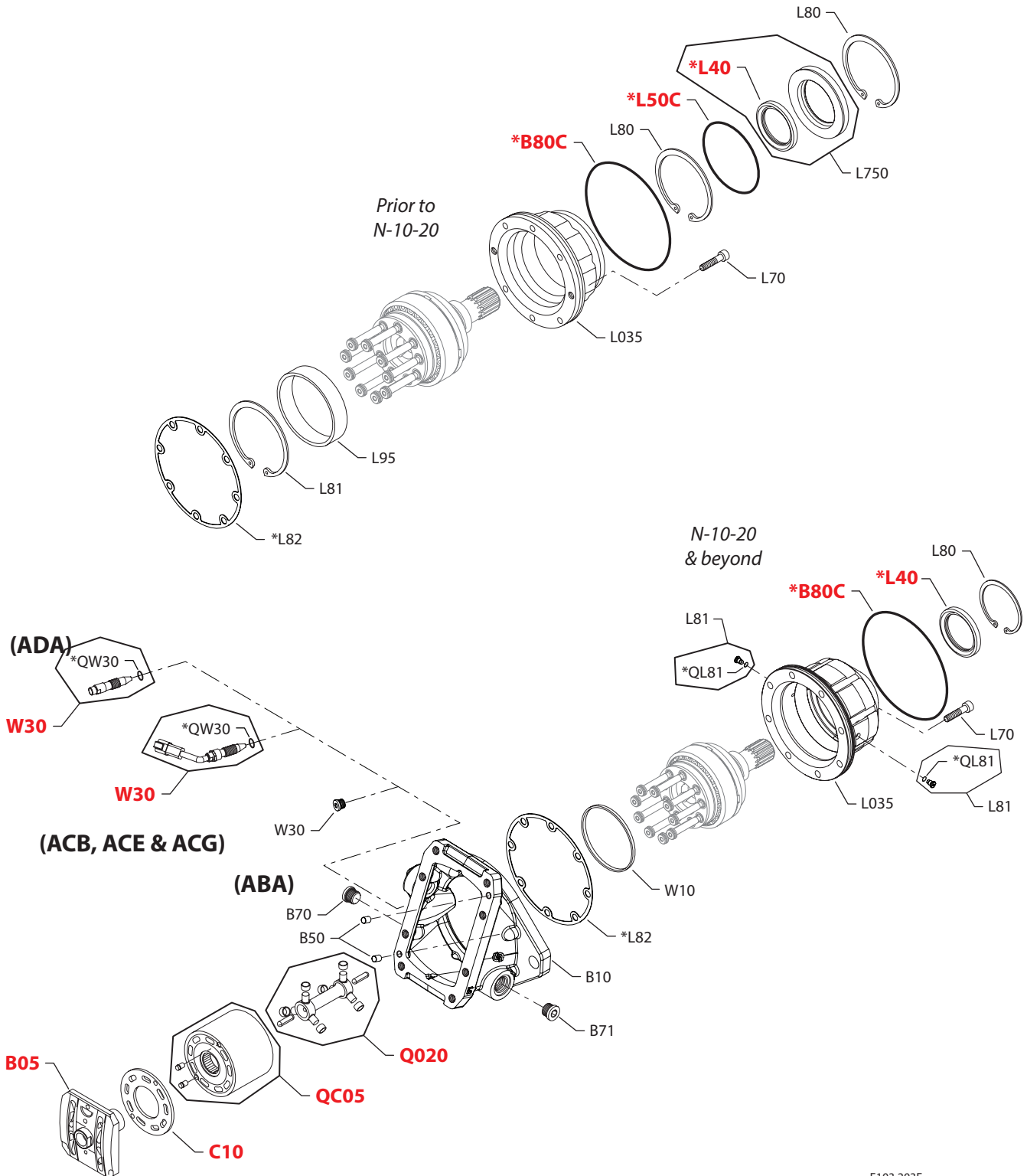
Variable Displacement Motor

Cartridge flange, 80cc special hardware

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
DBA	B10	98-30		512676	Housing	1
DDB	B10	98-34		512676	Housing	1
DDD	B10	98-34		512676	Housing	1
DDE	B10	98-34		512676	Housing	1
DDH	B10	98-34		512676	Housing	1
NNN	B10	98-34		512676	Housing	1



Variable Displacement Motor



E103 203E

* = included in base motor seal kit Q210

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


Variable Displacement Motor
Cartridge flange, 110cc common parts

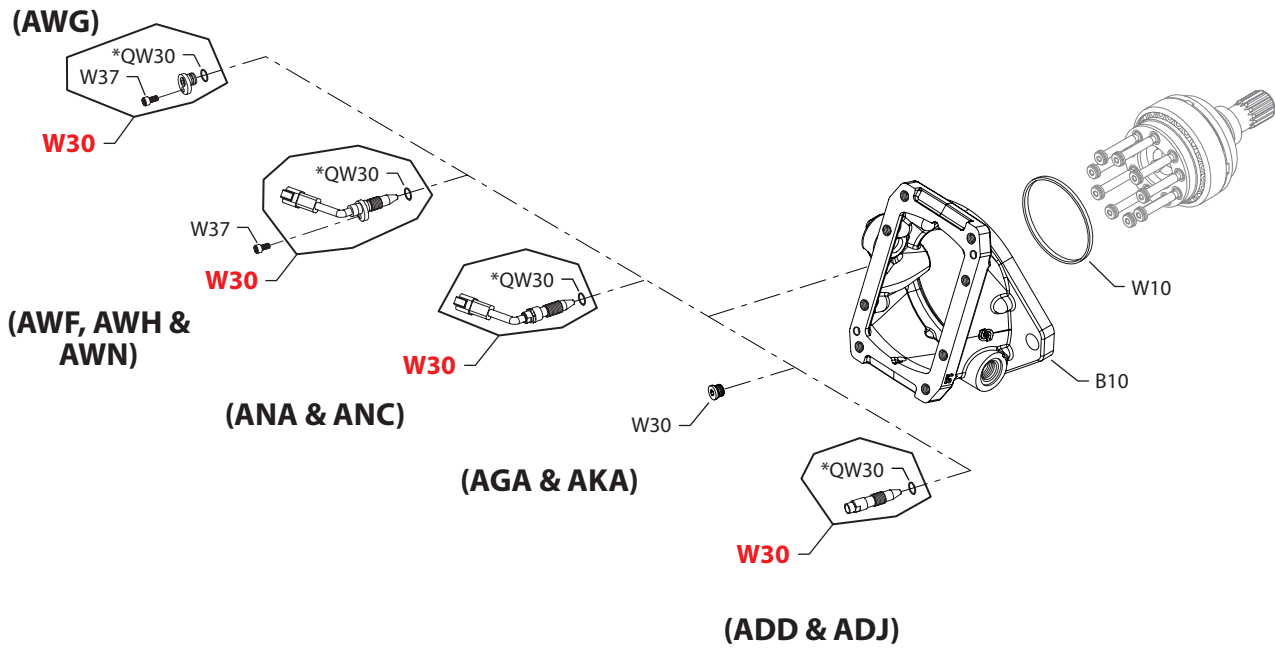
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
C	B05	98-06		507458	Valve segment	1
	B50	98-06		9004800-3708	Pin	2
	B70	98-06		664524 (9005110-9000)	Plug assembly	1
	B71	98-06		664524 (9005110-9000)	Plug assembly	1
	B80C	98-06		502206	O-ring	1
	C10	98-06		515368	Bearing plate	1
	L035	10-20		11038814	Bearing housing (SB-2009-019)	1
	L035	98-06	10-19	11009383	Bearing housing	1
	L40	05-41		519022	Lip seal (SB-2004-013)	1
	L40	98-06	05-40	341735	Lip seal	1
	L50C	98-06	10-19	507116 (9004104-1580)	O-ring (SB-2009-019)	1
	L70	98-06		727586	Screw	8
	L80	10-20		392423	Retaining ring (SB-2009-019)	1
	L80	98-06	10-19	739037	Retaining ring	2
	L81	10-20		11056747	Bearing log (SB-2009-019)	2
	L81	98-06	10-19	504732	Retaining ring	1
	L82	98-06		501113	Gasket	1
	L95	98-06	10-19	501118	Distance ring	1
	L750	98-06	10-19	510484	Seal carrier assembly (SB-2004-013 & SB-2009-019)	1
	Q020	98-06		516485	Synch shaft kit (SB-2001-015)	1
	QC05	98-06		355883	Cylinder block assembly	1
	QL81	10-20		039297 (9004201-1200)	O-ring	2

Cartridge flange, 110cc special hardware

ABA	B10	98-06		501105	Housing with speed sensor port	1
	W10	98-06		11132981	Speed ring	1
	W30	98-06		140644	Plug assembly	1
ACB	B10	00-18		501105	Housing with speed sensor port	1
	QW30	00-18		085043 (9004201-3700)	O-ring	1
	W10	00-18		11132981	Speed ring	1
	W30	00-18		KPPG26408	Speed sensor	1
ACE	B10	01-36		501105	Housing with speed sensor port	1
	QW30	01-36		085043 (9004201-3700)	O-ring	1
	W10	01-36		11132981	Speed ring	1
	W30	01-36		KPPG26408	Speed sensor	1
ACG	B10	09-02		501105	Housing with speed sensor port	1
	QW30	09-02		085043 (9004201-3700)	O-ring	1
	W10	09-02		11132981	Speed ring	1
	W30	09-02		KPPG22408	Speed sensor	1
ADA	B10	98-29		501105	Housing with speed sensor port	1
	QW30	98-29		085043 (9004201-3700)	O-ring	1
	W10	98-29		11132981	Speed ring	1
	W30	98-29		KPPG256	Speed sensor	1



Variable Displacement Motor



E100 666E

* = included in base motor seal kit Q210

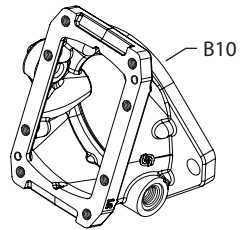
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
Cartridge flange, 110cc special hardware

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
ADD	B10	98-30		501105	Housing with speed sensor port	1
	QW30	98-30		085043 (9004201-3700)	O-ring	1
	W10	98-30		11132981	Speed ring	1
	W30	98-30		KPPG256	Speed sensor	1
ADJ	B10	00-12		501105	Housing with speed sensor port	1
	QW30	00-12		085043 (9004201-3700)	O-ring	1
	W10	00-12		11132981	Speed ring	1
	W30	00-12		KPPG256	Speed sensor	1
AGA	B10	98-06		501105	Housing with speed sensor port	1
	W10	98-06		11132981	Speed ring	1
	W30	98-06		140644	Plug assembly	1
AKA	B10	98-06		501105	Housing with speed sensor port	1
	W10	98-06		11132981	Speed ring	1
	W30	98-06		140644	Plug assembly	1
ANA	B10	01-15		501105	Housing with speed sensor port	1
	QW30	01-15		085043 (9004201-3700)	O-ring	1
	W10	01-15		11132981	Speed ring	1
	W30	01-15		KPPG23703	Speed sensor	1
ANC	B10	02-13		501105	Housing with speed sensor port	1
	QW30	02-13		085043 (9004201-3700)	O-ring	1
	W10	02-13		11132981	Speed ring	1
	W30	02-13		KPPG26708	Speed sensor	1
AWF	B10	02-13		517816	Housing with speed sensor port	1
	QW30	02-13		085043 (9004201-3700)	O-ring	1
	W10	02-13		11132981	Speed ring	1
	W30	02-13		KPPG36708B	Speed sensor	1
	W37	02-13		395822 (9007315-0603)	Screw, M6 x 12	1
AWG	B10	05-26		517816	Housing with speed sensor port	1
	QW30	05-26		085043 (9004201-3700)	O-ring	1
	W10	05-26		11132981	Speed ring	1
	W30	05-26		520997/P	Speed sensor plug assembly	1
	W37	05-26		395822 (9007315-0603)	Screw, M6 x 12	1
AWH	B10	06-13		517816	Housing with speed sensor port	1
	QW30	06-13		085043 (9004201-3700)	O-ring	1
	W10	06-13		11132981	Speed ring	1
	W30	06-13		KPPG36708B	Speed sensor	1
	W37	06-13		395822 (9007315-0603)	Screw, M6 x 12	1
AWN	B10	06-13		517816	Housing with speed sensor port	1
	QW30	06-13		085043 (9004201-3700)	O-ring	1
	W10	06-13		11132981	Speed ring	1
	W30	06-13		KPPG33703	Speed sensor	1
	W37	06-13		395822 (9007315-0603)	Screw, M6 x 12	1



Variable Displacement Motor



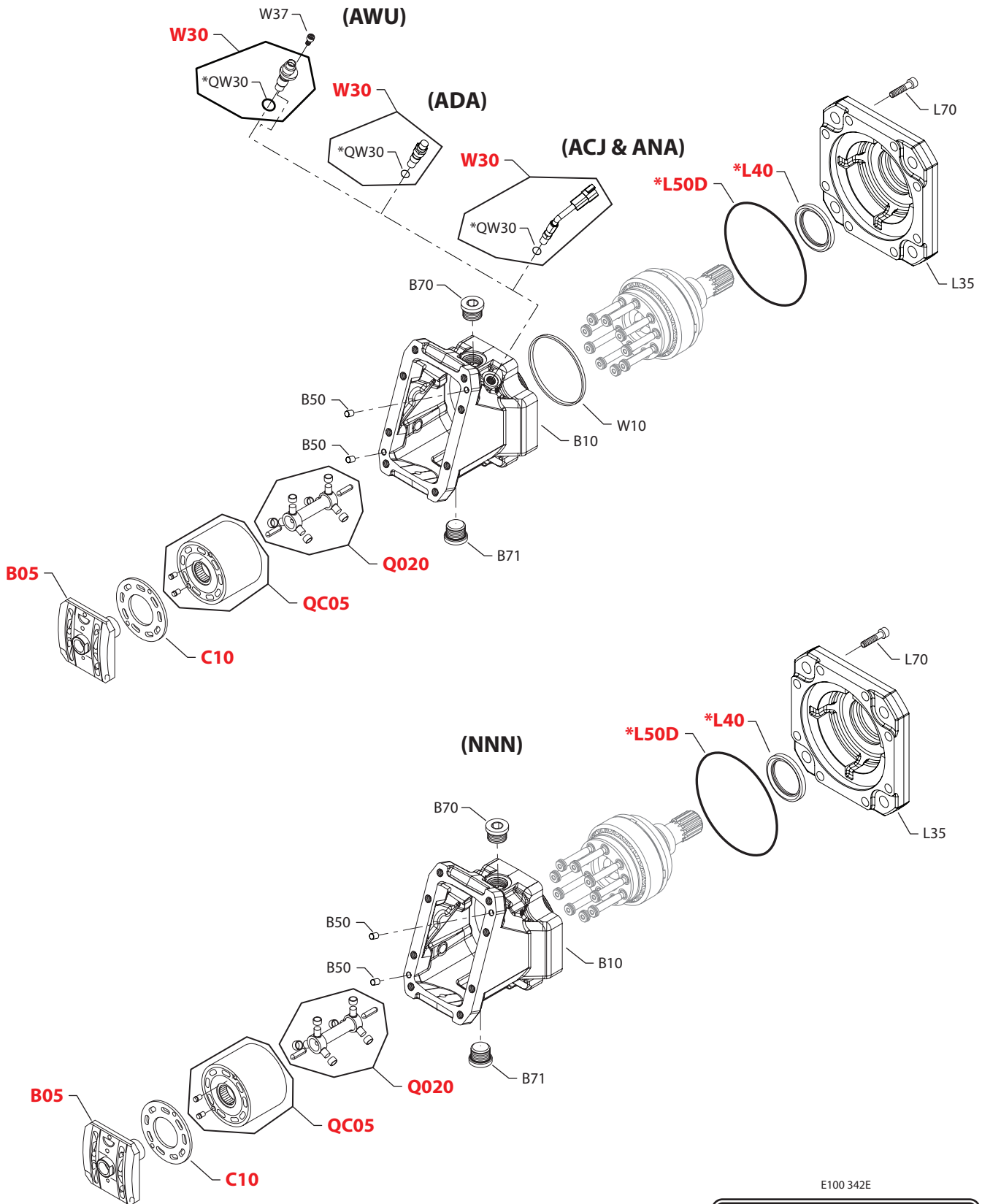
(DBA, DDD, DDH & NNN)

**Variable Displacement Motor****Cartridge flange, 110cc special hardware**

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
DBA	B10	98-06		505530	Housing	1
DDD	B10	01-36		505530	Housing	1
DDH	B10	07-41		505530	Housing	1
NNN	B10	98-06		505530	Housing	1



Variable Displacement Motor



* = included in base motor seal kit Q210

E100 342E
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
DIN flange, 60cc common parts

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
D	B05	98-06		507563	Valve segment	1
	B50	98-06		9004800-3708	Pin	2
	B70	98-06		664524 (9005110-9000)	Plug assembly	1
	B71	98-06		664524 (9005110-9000)	Plug assembly	1
	C10	98-06		515366	Bearing plate	1
	L35	98-06		520314	Flange, DIN (SB-2005-012)	1
	L40	06-14		519021	Lip seal (SB-2005-012)	1
	L40	98-06	06-13	673525 (9008000-0114)	Lip seal	1
	L50D	98-06		767962	O-ring	1
	L70	98-06		506969	Screw	8
	QC05	98-06		732719	Cylinder block assembly	1
	Q020	98-06		517308	Synch shaft kit (SB-2001-015)	1

DIN flange, 60cc special hardware

ACJ	B10	10-11		504577	Housing with speed sensor port	1
	QW30	10-11		085043 (9004201-3700)	O-ring	1
	W10	10-11		11132980	Speed ring	1
	W30	10-11		KPPG15408	Speed sensor assembly	1
ADA	B10	08-22		504577	Housing with speed sensor port	1
	QW30	08-22		085043 (9004201-3700)	O-ring	1
	W10	08-22		11132980	Speed ring	1
	W30	08-22		KPPG156	Speed sensor assembly	1
ANA	B10	09-07		504577	Housing with speed sensor port	1
	QW30	09-07		085043 (9004201-3700)	O-ring	1
	W10	09-07		11132980	Speed ring	1
	W30	09-07		KPPG13703	Speed sensor assembly	1
AWU	B10	08-22		520352	Housing with speed sensor port	1
	QW30	08-22		085043 (9004201-3700)	O-ring	1
	W10	08-22		11132980	Speed ring	1
	W30	08-22		KPPG456	Speed sensor assembly	1
NNN	B10	98-06		776013	Housing	1



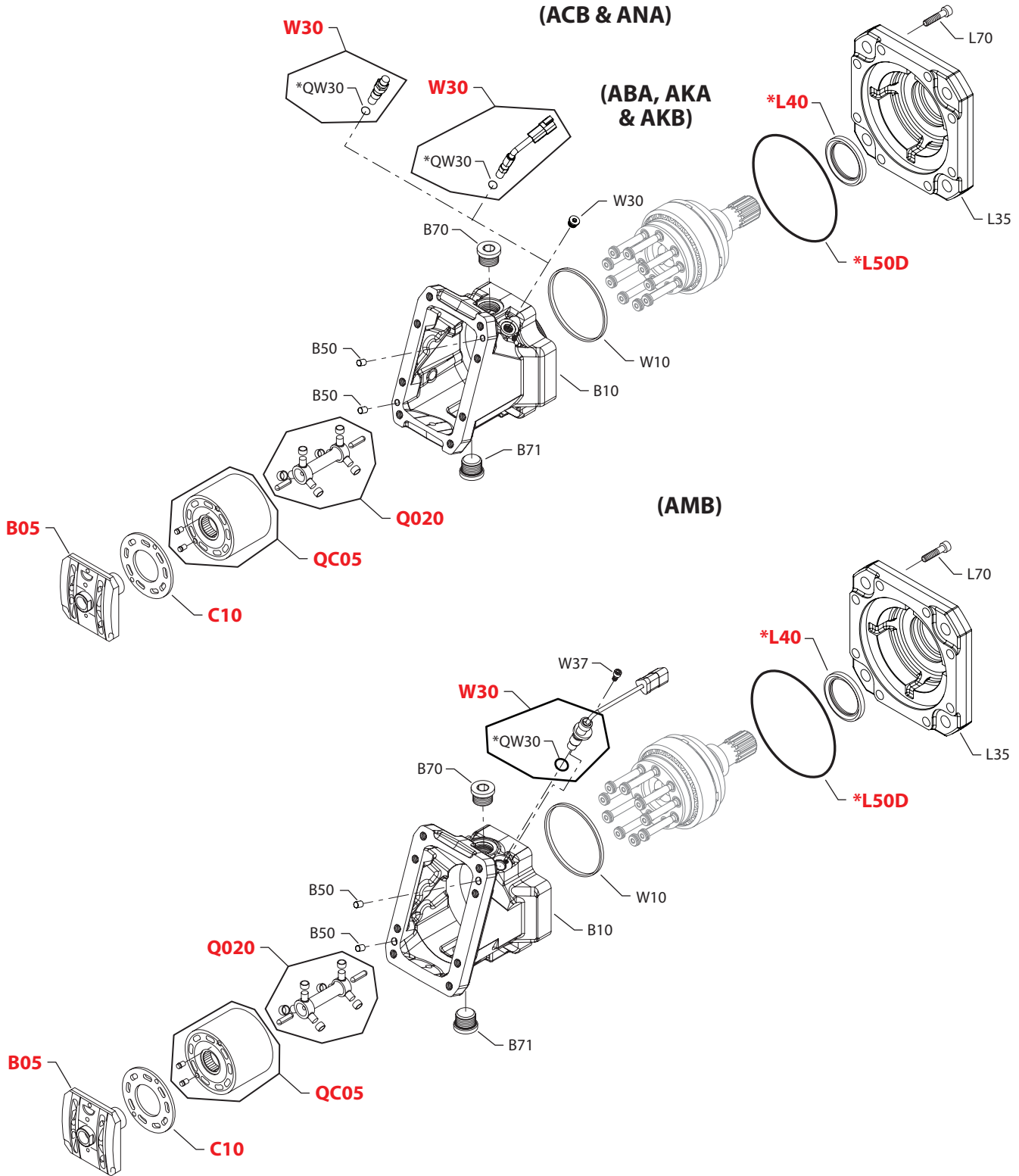
Variable Displacement Motor

(ADA & ADJ)

(ACB & ANA)

(ABA, AKA & AKB)

(AMB)



* = included in base motor seal kit Q210

E100 341E
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
DIN flange, 80cc common parts

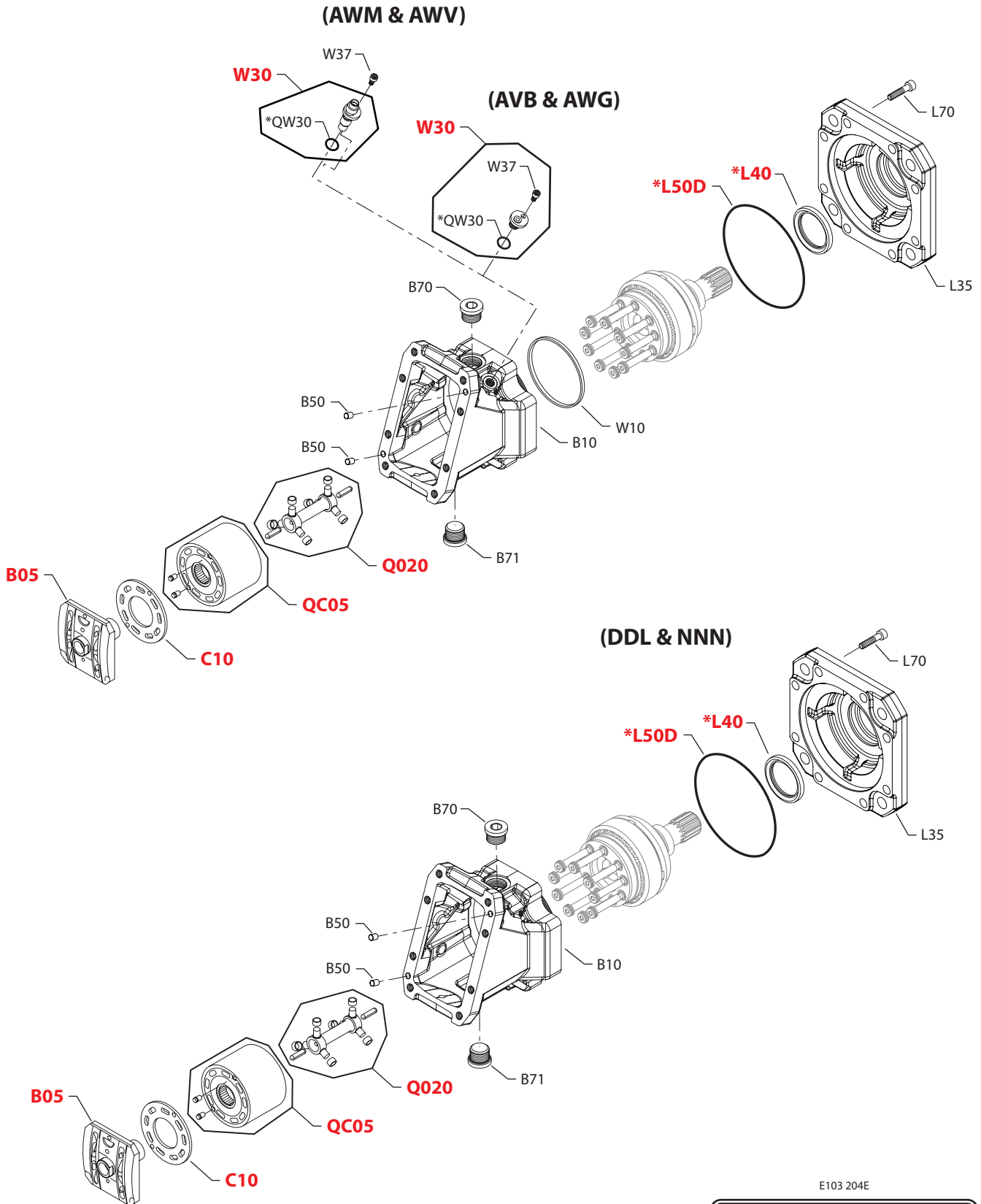
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
D	B05	98-06		507986	Valve segment	1
	B50	98-06		9004800-3708	Pin	2
	B70	98-06		664524 (9005110-9000)	Plug assembly	1
	B71	98-06		664524 (9005110-9000)	Plug assembly	1
	C10	98-06		515367	Bearing plate	1
	L35	98-06		520315	Flange, DIN (SB-2005-012)	1
	L40	06-14		519021	Lip seal (SB-2005-012)	1
	L40	98-06	06-13	673525 (9008000-0114)	Lip seal	1
	L50D	98-06		767962	O-ring	1
	L70	98-06		506969	Screw	8
	QC05	98-06		360362	Cylinder block assembly	1
	Q020	98-06		517309	Synch shaft kit (SB-2001-015)	1

DIN flange, 80cc special hardware

ABA	B10	01-01		504586	Housing with speed sensor port	1
	W10	01-01		11100013	Speed ring	1
	W30	01-01		140644	Plug assembly	1
ACB	B10	08-27		504586	Housing with speed sensor port	1
	QW30	08-27		085043 (9004201-3700)	O-ring	1
	W10	08-27		11100013	Speed ring	1
	W30	08-27		KPPG16408	Speed sensor assembly	1
ADA	B10	01-17		504586	Housing with speed sensor port	1
	QW30	01-17		085043 (9004201-3700)	O-ring	1
	W10	01-17		11100013	Speed ring	1
	W30	01-17		KPPG156	Speed sensor assembly	1
ADJ	B10	01-17		504586	Housing with speed sensor port	1
	QW30	01-17		085043 (9004201-3700)	O-ring	1
	W10	01-17		11100013	Speed ring	1
	W30	01-17		KPPG156	Speed sensor assembly	1
AKA	B10	01-17		504586	Housing with speed sensor port	1
	W10	01-17		11100013	Speed ring	1
	W30	01-17		140644	Plug assembly	1
AKB	B10	08-38		504586	Housing with speed sensor port	1
	W10	08-38		11100013	Speed ring	1
	W30	08-38		140644	Plug assembly	1
AMB	B10	04-25		520354	Housing with speed sensor port	1
	QW30	04-25		085043 (9004201-3700)	O-ring	1
	W10	04-25		11100013	Speed ring	1
	W30	04-25		11046847	Speed sensor assembly	1
	W37	04-25		395822 (9007315-0603)	Screw, M6 x 12	1
ANA	B10	09-07		504586	Housing with speed sensor port	1
	W10	09-07		11100013	Speed ring	1
	W30	09-07		KPPG13703	Speed sensor assembly	1



Variable Displacement Motor



* = included in base motor seal kit Q210

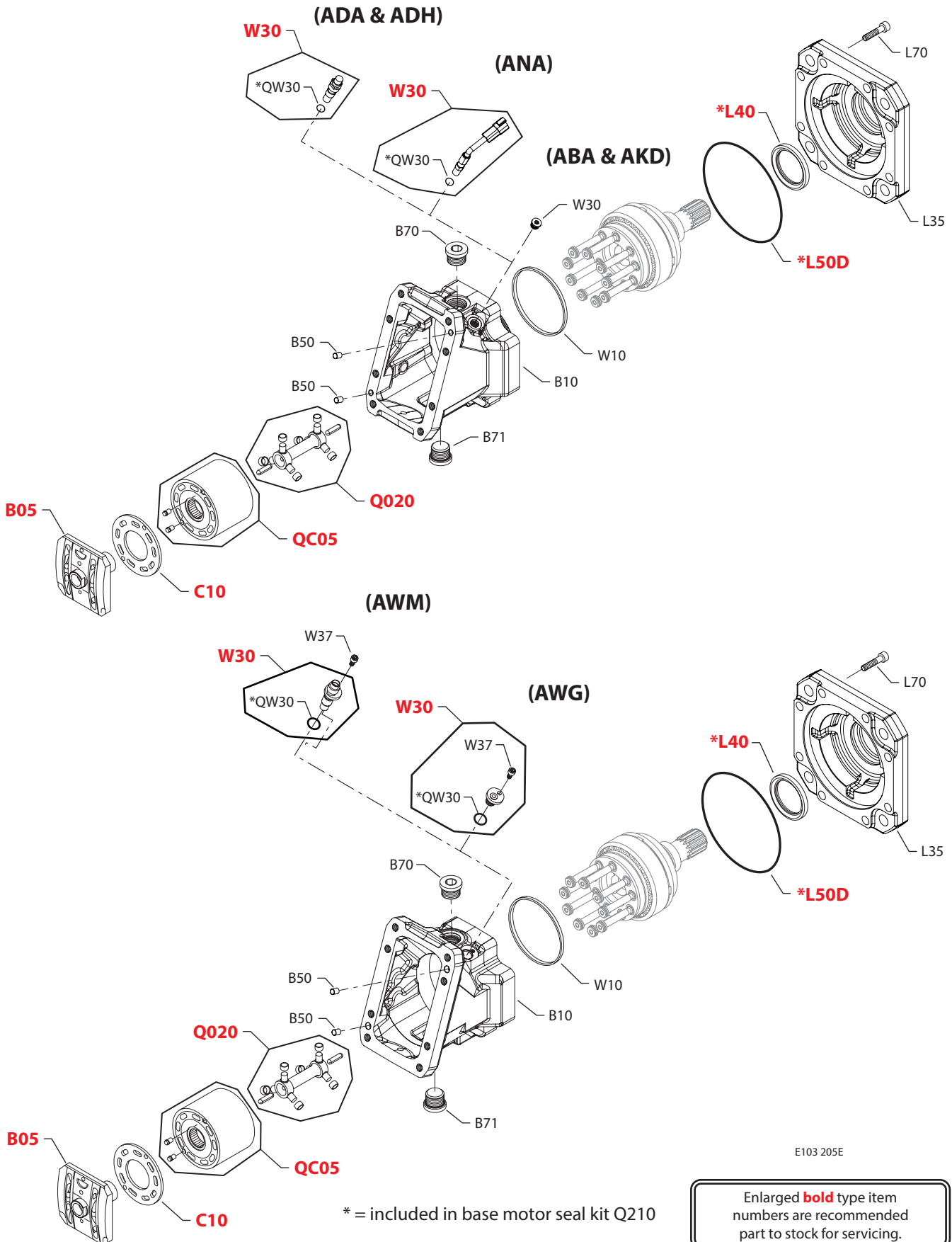
E103 204E
 Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
DIN flange, 80cc special hardware

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
AVB	B10	09-09		520354	Housing with speed sensor port	1
	QW30	09-09		085043 (9004201-3700)	O-ring	1
	W10	09-09		11100013	Speed ring	1
	W30	09-09		520997	Speed sensor plug assembly	1
	W37	09-09		395822 (9007315-0603)	Screw, M6 x 12	1
AWG	B10	01-01		520354	Housing with speed sensor port	1
	QW30	01-01		085043 (9004201-3700)	O-ring	1
	W10	01-01		11100013	Speed ring	1
	W30	01-01		520997	Speed sensor plug assembly	1
	W37	01-01		395822 (9007315-0603)	Screw, M6 x 12	1
AWM	B10	05-46		520354	Housing with speed sensor port	1
	QW30	05-46		085043 (9004201-3700)	O-ring	1
	W10	05-46		11100013	Speed ring	1
	W30	05-46		KPPG456	Speed sensor assembly	1
	W37	05-46		395822 (9007315-0603)	Screw, M6 x 12	1
AWV	B10	08-22		520354	Housing with speed sensor port	1
	QW30	08-22		085043 (9004201-3700)	O-ring	1
	W10	08-22		11100013	Speed ring	1
	W30	08-22		KPPG456	Speed sensor assembly	1
	W37	08-22		395822 (9007315-0603)	Screw, M6 x 12	1
DDL	B10	10-07		776070	Housing without speed sensor port	1
NNN	B10	92-01		776070	Housing without speed sensor port	1



Variable Displacement Motor



E103 205E

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


Variable Displacement Motor
DIN flange, 110cc common parts

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
D	B05	98-06		507458	Valve segment	1
	B50	98-06		9004800-3708	Pin	2
	B70	98-06		664524 (9005110-9000)	Plug assembly	1
	B71	98-06		664524 (9005110-9000)	Plug assembly	1
	C10	98-06		515368	Bearing plate	1
	L35	05-45		520316	Flange, DIN (SB-2004-013)	1
	L40	05-41		519022	Lip seal (SB-2004-013)	1
	L40	98-06	05-40	341735	Lip seal	1
	L50D	98-06		729285	O-ring	1
	L70	98-06		064493	Screw	8
	Q020	98-06		516485	Synch shaft kit (SB-2001-015)	1
	QC05	98-06		355883	Cylinder block assembly	1

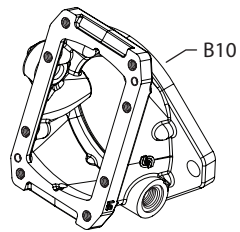
DIN flange, 110cc special hardware

ABA	B10	98-06		504598	Housing with speed sensor port	1
	W10	98-06		11132981	Speed ring	1
	W30	98-06		140644	Plug assembly	1
ADA	B10	01-27		504598	Housing with speed sensor port	1
	QW30	01-27		085043 (9004201-3700)	O-ring	1
	W10	01-27		11132981	Speed ring	1
	W30	01-27		KPPG156	Speed sensor	1
ADH	B10	00-12		504598	Housing with speed sensor port	1
	QW30	00-12		085043 (9004201-3700)	O-ring	1
	W10	00-12		11132981	Speed ring	1
	W30	00-12		KPPG156	Speed sensor	1
AKD	B10	98-06		504598	Housing with speed sensor port	1
	W10	98-06		11132981	Speed ring	1
	W30	98-06		140644	Plug assembly	1
ANA	B10	09-07		504598	Housing with speed sensor port	1
	QW30	09-07		085043 (9004201-3700)	O-ring	1
	W10	09-07		11132981	Speed ring	1
	W30	09-07		KPPG13703	Speed sensor	1
AWG	B10	01-01		518915	Housing with speed sensor port	1
	QW30	01-01		085043 (9004201-3700)	O-ring	1
	W10	01-01		11132981	Speed ring	1
	W30	01-01		520997	Speed sensor plug assembly	1
	W37	01-01		395822 (9007315-0603)	Screw, M6 x 12	1
AWM	B10	01-01		518915	Housing with speed sensor port	1
	QW30	01-01		085043 (9004201-3700)	O-ring	1
	W10	01-01		11132981	Speed ring	1
	W30	01-01		KPPG456	Speed sensor	1
	W37	01-01		395822 (9007315-0603)	Screw, M6 x 12	1



Variable Displacement Motor

(DDM, DDN & NNN)



E103 202E



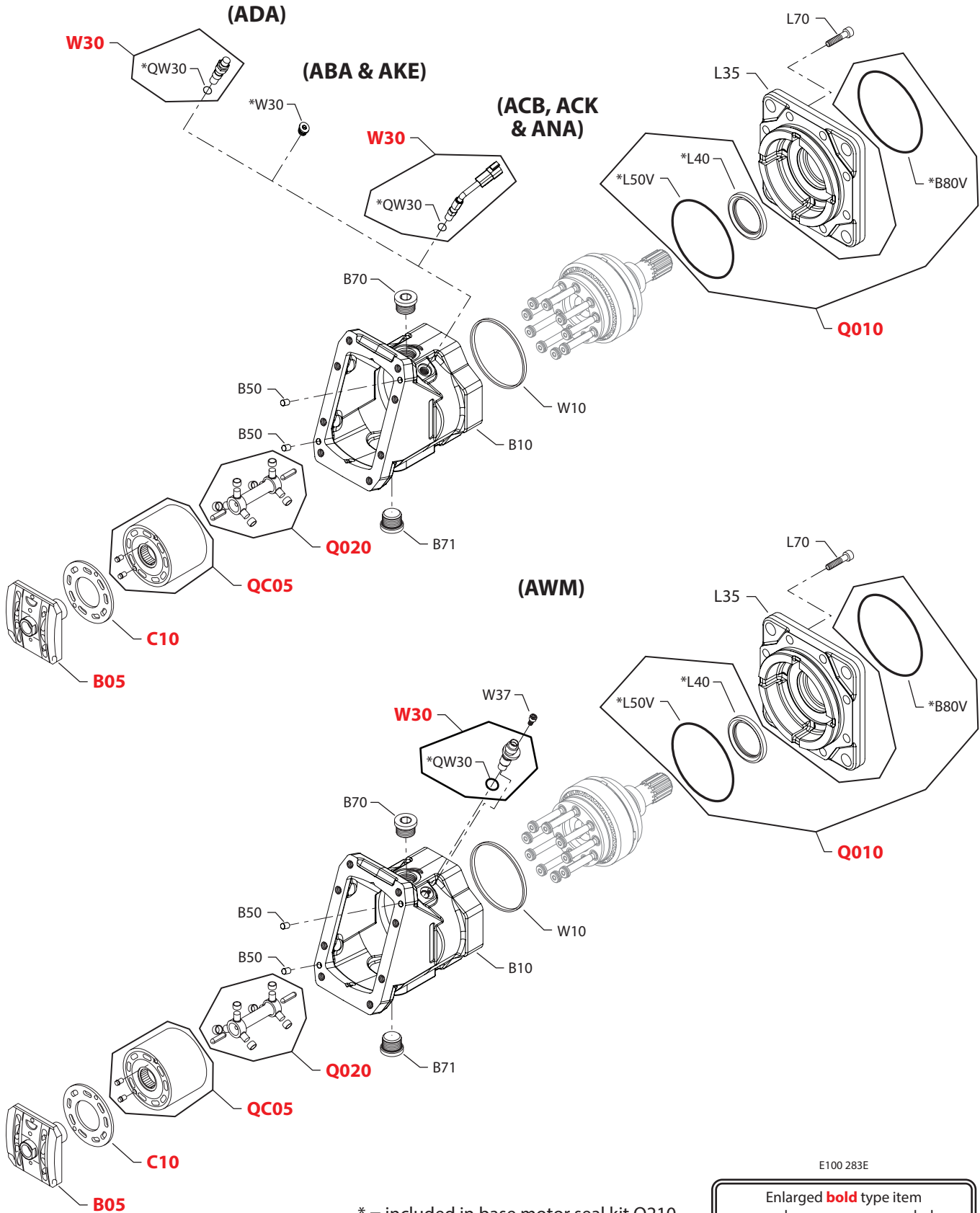
Variable Displacement Motor

DIN flange, 110cc special hardware

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
DDM	B10	10-23		774778	Housing without speed sensor port	1
DDN	B10	13-12		774778	Housing without speed sensor port	1
NNN	B10	98-06		774778	Housing without speed sensor port	1



Variable Displacement Motor



E100 283E

* = included in base motor seal kit Q210

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


Variable Displacement Motor
SAE flange, 60cc common parts

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
V	B05	98-06		507563	Valve segment	1
	B50	98-06		9004800-3708	Pin	2
	B70	98-06		664524 (9005110-9000)	Plug assembly	1
	B71	98-06		664524 (9005110-9000)	Plug assembly	1
	B80V	98-06		930511	O-ring	1
	C10	98-06		515366	Bearing plate	1
	L35	98-06		520318	Flange, SAE (SB-2005-012)	1
	L40	06-14		519021	Lip seal (SB-2005-012)	1
	L40	98-06	06-13	673525 (9008000-0114)	Lip seal	1
	L50V	98-06		917088	O-ring	1
	L70	98-06		506969	Screw	8
	QC05	98-06		732719	Cylinder block assembly	1
	Q010	98-06		771618	Shaft seal kit	1
	Q020	98-06		517308	Synch shaft kit (SB-2001-015)	1

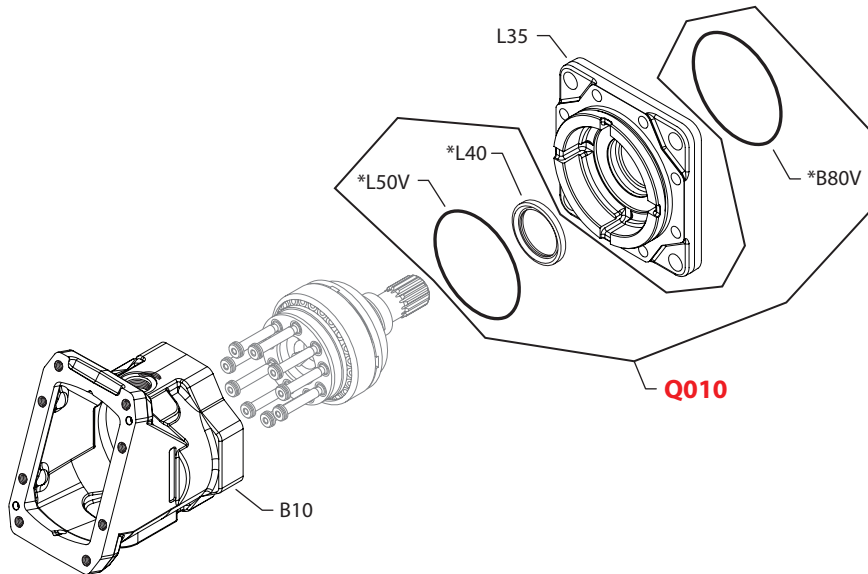
SAE flange, 60cc special hardware

ABA	B10	98-06		504575	Housing with speed sensor port	1
	W10	98-06		11132980	Speed ring	1
	W30	98-06		140644	Plug assembly	1
ACB	B10	94-04		504575	Housing with speed sensor port	1
	QW30	94-04		085043 (9004201-3700)	O-ring	1
	W10	94-04		11132980	Speed ring	1
	W30	94-04		KPPG16408	Speed sensor assembly	1
ACK	B10	94-04		504575	Housing with speed sensor port	1
	QW30	94-04		085043 (9004201-3700)	O-ring	1
	W10	94-04		11132980	Speed ring	1
	W30	94-04		KPPG17708	Speed sensor assembly	1
ADA	B10	01-27		504575	Housing with speed sensor port	1
	QW30	01-27		085043 (9004201-3700)	O-ring	1
	W10	01-27		11132980	Speed ring	1
	W30	01-27		KPPG156	Speed sensor assembly	1
AKE	B10	00-08		504575	Housing with speed sensor port	1
	W10	00-08		11132980	Speed ring	1
	W30	00-08		140644	Plug assembly	1
ANA	B10	05-51		504575	Housing with speed sensor port	1
	QW30	05-51		085043 (9004201-3700)	O-ring	1
	W10	05-51		11132980	Speed ring	1
	W30	05-51		KPPG13703	Speed sensor assembly	1
AWM	B10	05-51		520356	Housing with speed sensor port	1
	QW30	05-51		085043 (9004201-3700)	O-ring	1
	W10	05-51		11132980	Speed ring	1
	W30	05-51		KPPG456	Speed sensor assembly	1



Variable Displacement Motor

(DAA, DDE, DDH & NNN)



E103 156E

* = included in base motor seal kit Q210

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



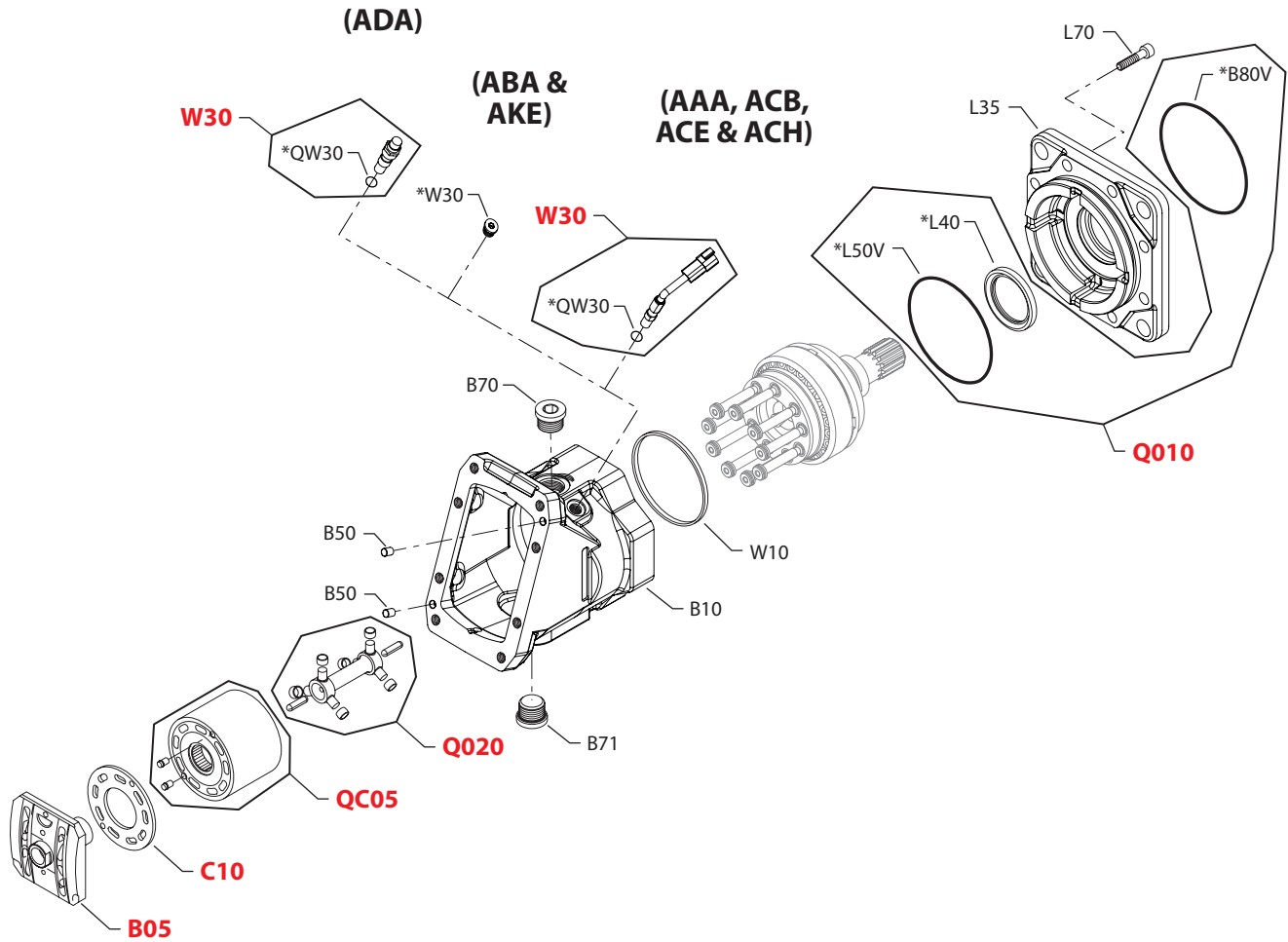
Variable Displacement Motor

SAE flange, 60cc special hardware

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
DAA	B10	05-25		503875	Housing with speed sensor port	1
DDE	B10	07-33		503875	Housing with speed sensor port	1
DDH	B10	07-42		503875	Housing with speed sensor port	1
NNN	B10	98-06		503875	Housing with speed sensor port	1



Variable Displacement Motor



* = included in base motor seal kit Q210

E100 248E

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


Variable Displacement Motor
SAE flange, 80cc common parts

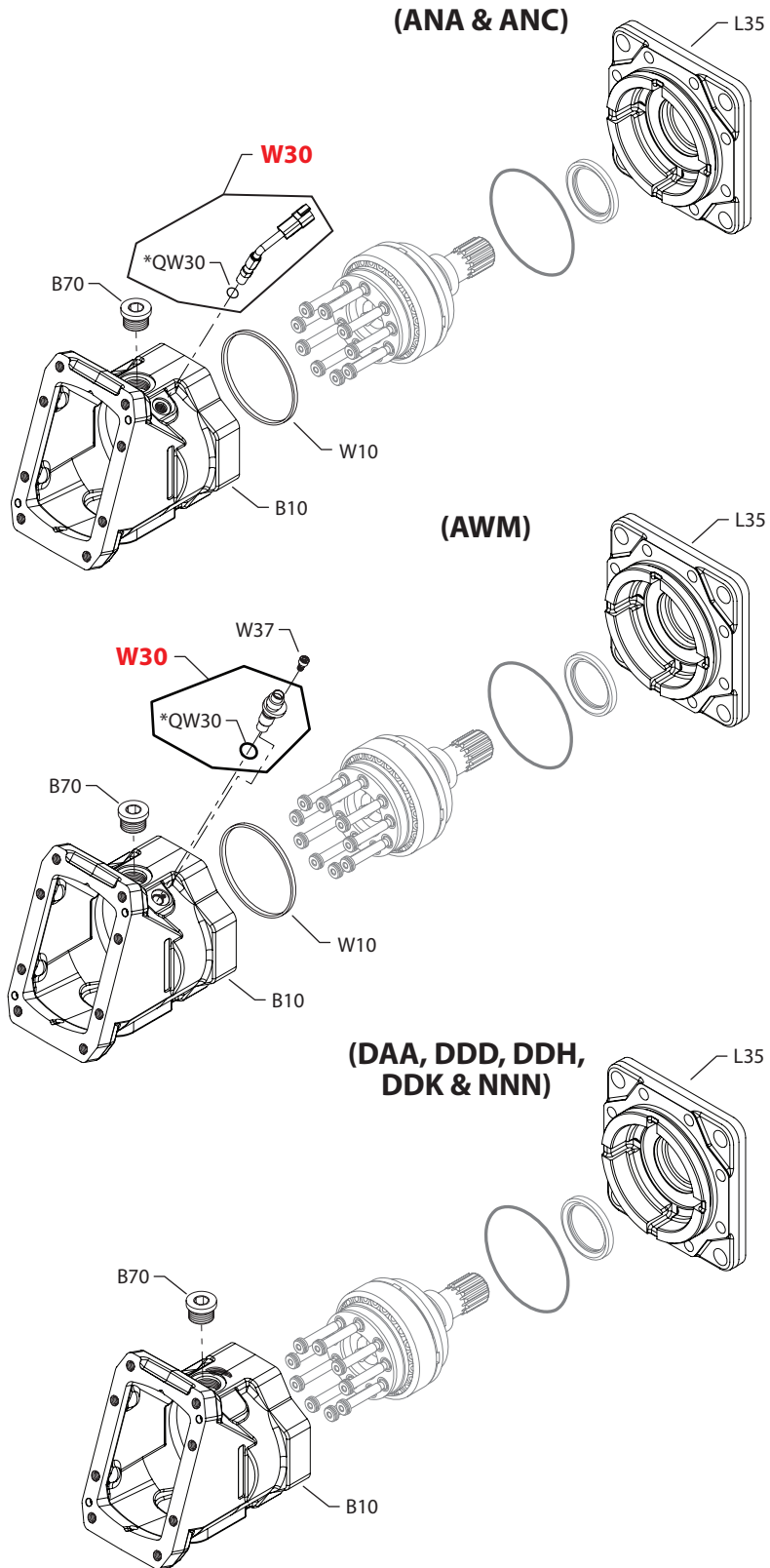
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
V	B05	98-06		507986	Valve segment	1
	B50	98-06		9004800-3708	Pin	2
	B70	98-06		664524 (9005110-9000)	Plug assembly	1
	B71	98-06		664524 (9005110-9000)	Plug assembly	1
	B80V	98-06		930511	O-ring	1
	C10	98-06		515367	Bearing plate	1
	L35	98-06		519195	Flange, SAE (SB-2005-012)	1
	L40	06-14		519021	Lip seal (SB-2005-012)	1
	L40	98-06	06-13	673525 (9008000-0114)	Lip seal	1
	L50V	98-06		767962	O-ring	1
	L70	98-06		746594	Screw	8
	QC05	98-06		360362	Cylinder block assembly	1
	Q010	98-06		771055	Shaft seal kit	1
	Q020	98-06		517309	Synch shaft kit (SB-2001-015)	1

SAE flange, 80cc special hardware

AAA	B10	04-13		504584	Housing with speed sensor port	1
	QW30	04-13		085043 (9004201-3700)	O-ring	1
	W10	04-13		11100013	Speed ring	1
	W30	04-13		KPPG12508	Speed sensor assembly	1
ABA	B10	98-40		504584	Housing with speed sensor port	1
	W10	98-40		11100013	Speed ring	1
	W30	98-40		140644	Plug assembly	1
ACB	B10	00-07		504584	Housing with speed sensor port	1
	QW30	00-07		085043 (9004201-3700)	O-ring	1
	W10	00-07		11100013	Speed ring	1
	W30	00-07		KPPG16408	Speed sensor assembly	1
ACE	B10	00-34		504584	Housing with speed sensor port	1
	QW30	00-34		085043 (9004201-3700)	O-ring	1
	W10	00-34		11100013	Speed ring	1
	W30	00-34		KPPG16408	Speed sensor assembly	1
ACH	B10	04-17		504584	Housing with speed sensor port	1
	QW30	04-17		085043 (9004201-3700)	O-ring	1
	W10	04-17		11100013	Speed ring	1
	W30	04-17		KPPG16708	Speed sensor assembly	1
ADA	B10	01-01		504584	Housing with speed sensor port	1
	QW30	01-01		085043 (9004201-3700)	O-ring	1
	W10	01-01		11100013	Speed ring	1
	W30	01-01		KPPG156	Speed sensor assembly	1
AKE	B10	07-46		504584	Housing with speed sensor port	1
	W10	07-46		11100013	Speed ring	1
	W30	07-46		140644	Plug assembly	1



Variable Displacement Motor



E103 206E

* = included in base motor seal kit Q210

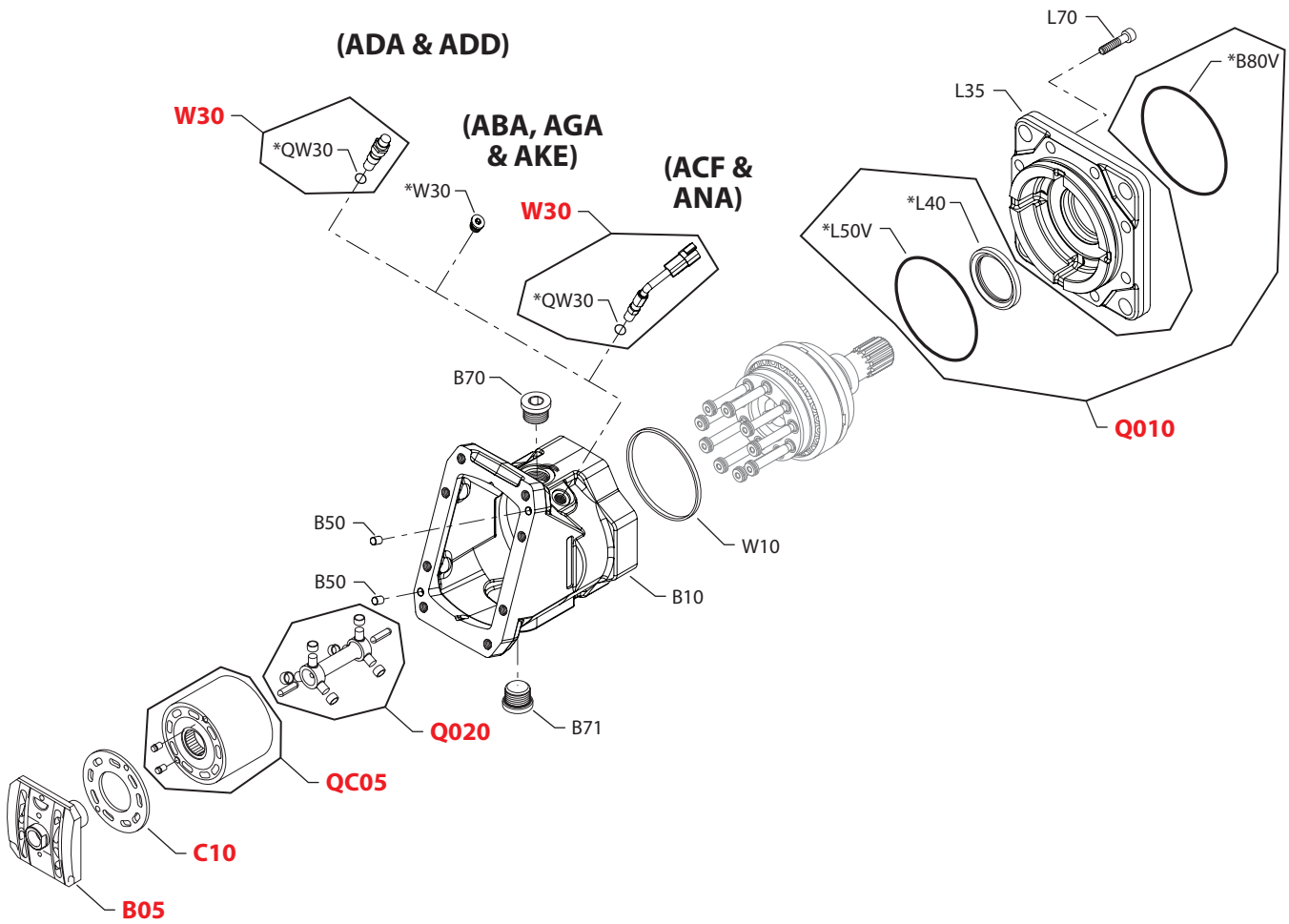
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
SAE flange, 80cc special hardware

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
ANA	B10	09-07		504584	Housing with speed sensor port	1
	QW30	09-07		085043 (9004201-3700)	O-ring	1
	W10	09-07		11100013	Speed ring	1
	W30	09-07		KPPG13703	Speed sensor assembly	1
ANC	B10	02-13		504584	Housing with speed sensor port	1
	QW30	02-13		085043 (9004201-3700)	O-ring	1
	W10	02-13		11100013	Speed ring	1
	W30	02-13		KPPG16708	Speed sensor assembly	1
AWM	B10	08-31		518992	Housing with speed sensor port	1
	QW30	08-31		085043 (9004201-3700)	O-ring	1
	W30	08-31		KPPG456	Speed sensor assembly	1
	W37	08-31		395822 (9007315-0603)	Screw, M6 x 12	1
DAA	B10	07-43		503877	Housing without speed sensor port	1
DDD	B10	00-34		503877	Housing without speed sensor port	1
DDH	B10	07-27		503877	Housing without speed sensor port	1
DDK	B10	09-06		503877	Housing without speed sensor port	1
NNN	B10	98-06		503877	Housing without speed sensor port	1



Variable Displacement Motor



E103 142E

* = included in base motor seal kit Q210

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


Variable Displacement Motor
SAE flange, 110cc common parts

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
V	B05	98-06		507458	Valve segment (SB-1996-005 & SB-1997-030)	1
	B50	98-06		9004800-3708	Pin	2
	B70	98-06		664524 (9005110-9000)	Plug assembly	1
	B71	98-06		664524 (9005110-9000)	Plug assembly	1
	B80V	98-06		729285	O-ring	1
	C10	98-06		515368	Bearing plate	1
	L35	05-45		520319	Flange, SAE (SB-2004-013)	1
	L40	05-41		519022	Lip seal (SB-2004-013)	1
	L40	98-06	05-40	341735	Lip seal	1
	L50V	98-06		717462	O-ring	1
	L70	98-06		064493	Screw	8
	Q010	98-06		773184	Shaft seal kit	1
	Q020	98-06		516485	Synch shaft kit (SB-2001-015)	1
	QC05	98-06		355883	Cylinder block assembly	1

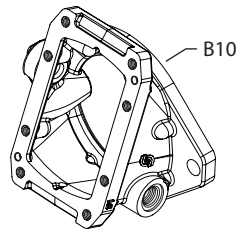
SAE flange, 110cc special hardware

ABA	B10	98-06		504595	Housing with speed sensor port	1
	W10	98-06		11132981	Speed ring	1
	W30	98-06		140644	Plug assembly	1
ACF	B10	03-37		504595	Housing with speed sensor port	1
	QW30	03-37		085043 (9004201-3700)	O-ring	1
	W10	03-37		11132981	Speed ring	1
	W30	03-37		KPPG16708	Speed sensor	1
ADA	B10	01-01		504595	Housing with speed sensor port	1
	QW30	01-01		085043 (9004201-3700)	O-ring	1
	W10	01-01		11132981	Speed ring	1
	W30	01-01		KPPG156	Speed sensor	1
ADD	B10	99-04		504595	Housing with speed sensor port	1
	QW30	99-04		085043 (9004201-3700)	O-ring	1
	W10	99-04		11132981	Speed ring	1
	W30	99-04		KPPG156	Speed sensor	1
AGA	B10	97-31		504595	Housing with speed sensor port	1
	W10	97-31		11132981	Speed ring	1
	W30	97-31		140644	Plug assembly	1
AKE	B10	07-27		504595	Housing with speed sensor port	1
	W10	07-27		11132981	Speed ring	1
	W30	07-27		140644	Plug assembly	1
ANA	B10	09-07		504595	Housing with speed sensor port	1
	QW30	09-07		085043 (9004201-3700)	O-ring	1
	W10	09-07		11132981	Speed ring	1
	W30	09-07		KPPG13703	Speed sensor	1



Variable Displacement Motor

(DBA, DDB, DDH & NNN)



E103 202E



Variable Displacement Motor

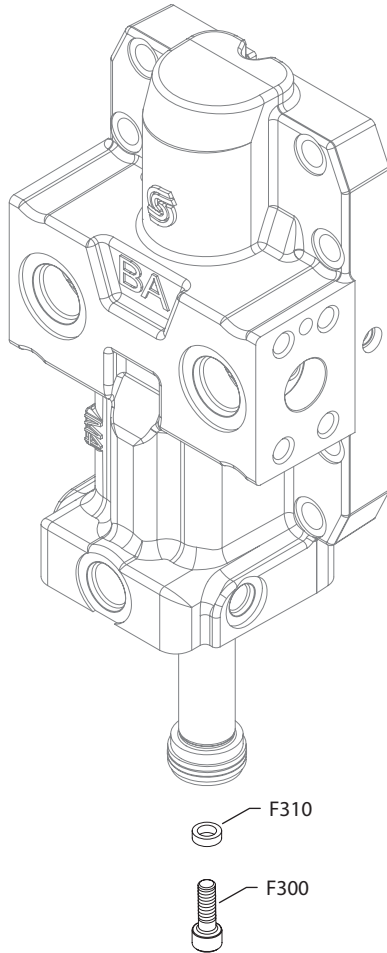
SAE flange, 110cc special hardware

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
DBA	B10	98-06		727297	Housing without speed sensor port	1
DDB	B10	03-07		727297	Housing without speed sensor port	1
DDH	B10	07-27		727297	Housing without speed sensor port	1
NNN	B10	98-06		727297	Housing without speed sensor port	1

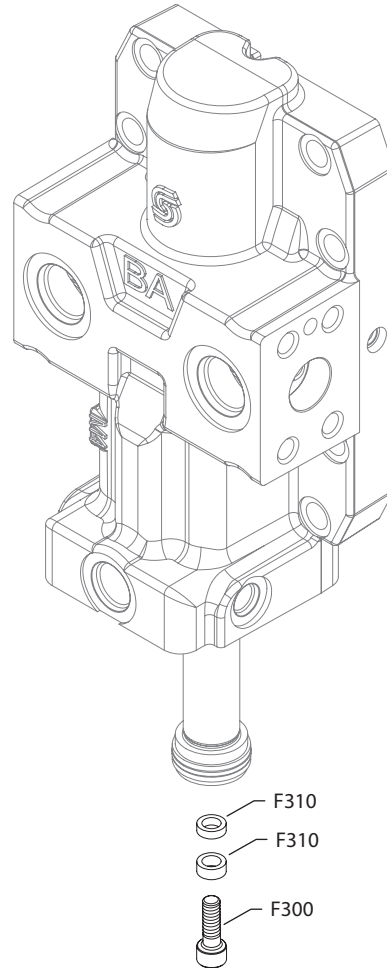


Variable Displacement Motor

(A, B, C, D & E)



(B for 80cc)



E100 326E


Variable Displacement Motor
Maximum displacement, 60cc

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
A	F300	98-06		506969	Screw, M8 x 25	1
	F310	98-06		780890	Spacer sleeve, 3.5mm	1
B	F300	98-06		506969	Screw, M8 x 25	1
	F310	98-06		781948	Spacer sleeve, 6.5mm	1
C	F300	98-06		746594	Screw, M8 x 30	1
	F310	98-06		519658	Spacer sleeve, 9.7mm	1
D	F300	12-23		746594	Screw, M8 x 30	1
	F310	12-23		11117180	Spacer sleeve, 12.9mm	1
E	F300	98-06		746594	Screw, M8 x 30	1
	F310	98-06		521256	Spacer sleeve, 15.7mm	1
N				No parts		

Maximum displacement, 80cc

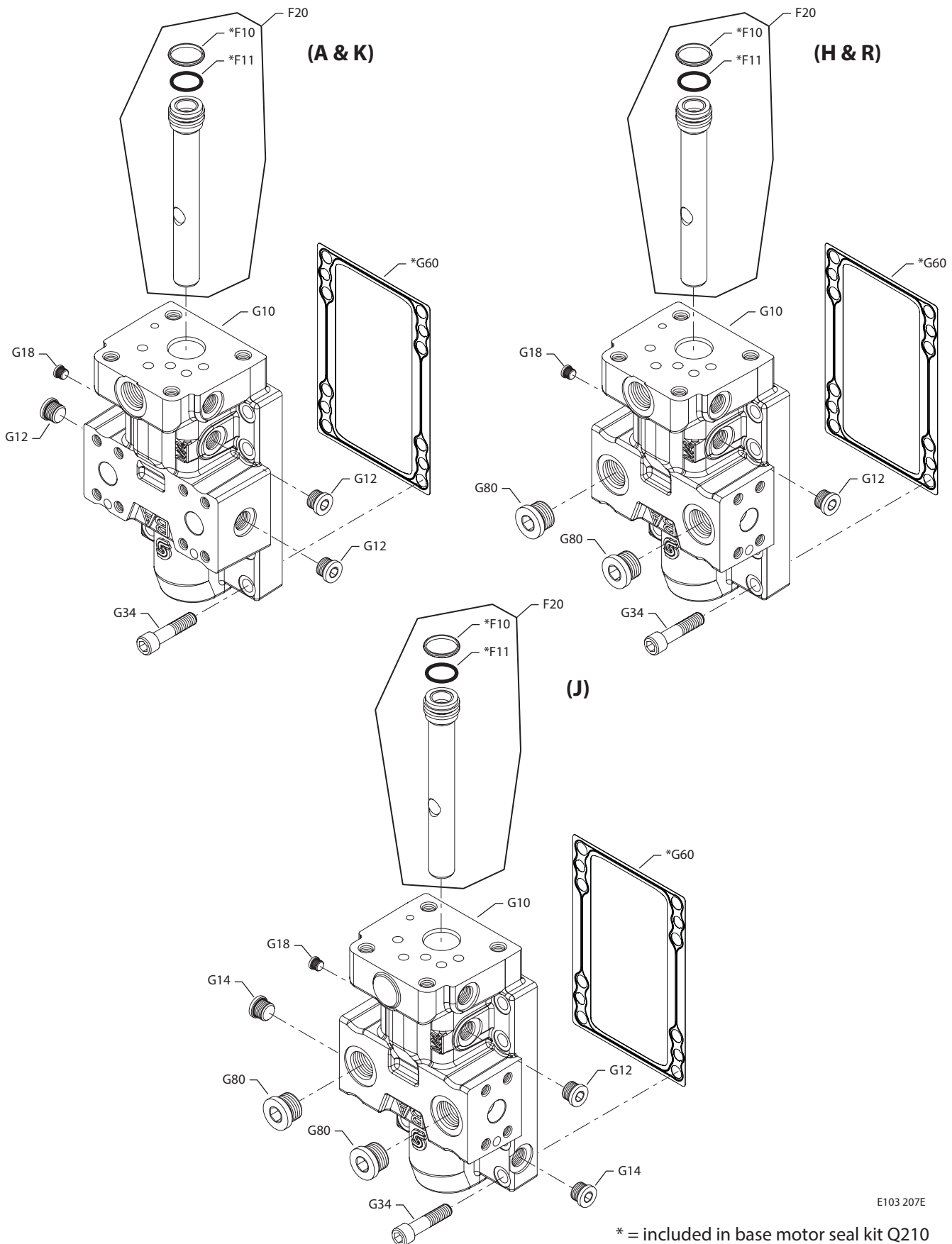
A	F300	98-06		506969	Screw, M8 x 25	1
	F310	98-06		780890	Spacer sleeve, 3.5mm	1
B	F300	98-06		506969	Screw, M8 x 25	1
	F310	98-06		11064423	Spacer sleeve, 3.1mm	1
	F311	98-06		515498	Spacer sleeve, 3.9mm	1
C	F300	98-06		506969	Screw, M8 x 25	1
	F310	98-06		521208	Spacer sleeve, 10.5mm	1
D	F300	98-06		746594	Screw, M8 x 30	1
	F310	98-06		11000676	Spacer sleeve, 14.0mm	1
N				No parts		

Maximum displacement, 110cc

A	F300	98-06		506969	Screw, M8 x 25	1
	F310	98-06		515498	Spacer sleeve, 3.9mm	1
B	F300	98-06		506969	Screw, M8 x 25	1
	F310	98-06		513262	Spacer sleeve, 7.7mm	1
C	F300	98-06		506969	Screw, M8 x 25	1
	F310	98-06		11038079	Spacer sleeve, 11.5mm	1
D	F300	12-14		746594	Screw, M8 x 30	1
	F310	12-14		11114051	Spacer sleeve, 15.3mm	1
E	F300	98-06		746594	Screw, M8 x 30	1
	F310	98-06		508571	Spacer sleeve, 19.0mm	1
N				No parts		



Variable Displacement Motor



E103 207E

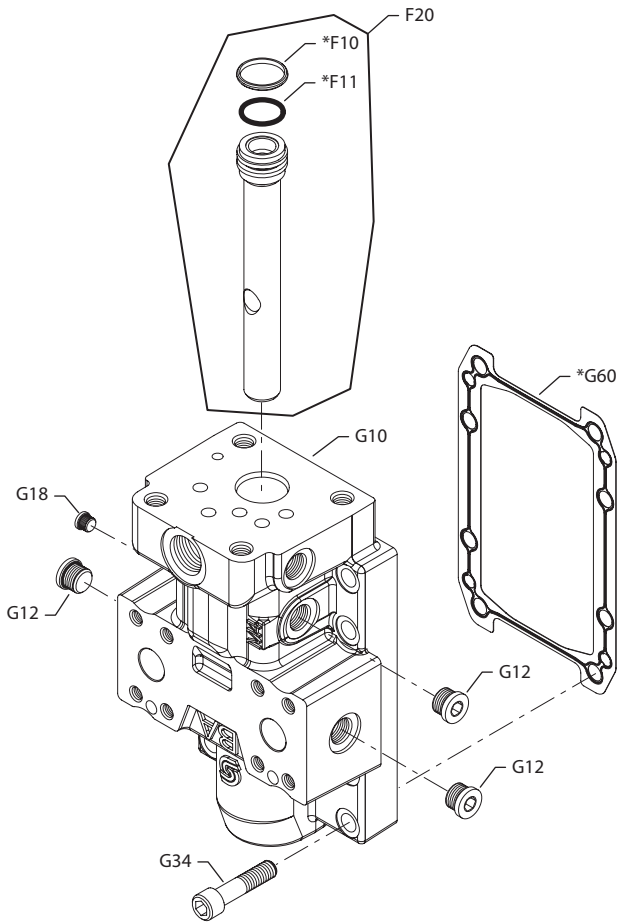

Variable Displacement Motor
End cap, 60cc

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
A	F10	98-06		508134	Seal ring	1
	F11	98-06		504207	O-ring	1
	F20	98-06		508186	Servo piston assembly	1
	G10	98-06		516905	End cap, axial ports	1
	G12	98-06		140644	Plug assembly	3
	G18	98-06		11040532	Plug assembly	1
	G34	98-06		672295	Screw, M10 x 45	8
	G60	98-06		515733	Gasket	1
H	F10	98-06		508134	Seal ring	1
	F11	98-06		504207	O-ring	1
	F20	98-06		508186	Servo piston assembly	1
	G10	98-06		516920	End cap, side ports	1
	G12	98-06		140644	Plug assembly	1
	G18	98-06		11040532	Plug assembly	1
	G34	98-06		672295	Screw, M10 x 45	8
	G60	98-06		515733	Gasket	1
	G80	98-06		315325 (9005110-8700)	Plug assembly	2
J	F10	98-06		508134	Seal ring	1
	F11	98-06		504207	O-ring	1
	F20	98-06		508186	Servo piston assembly	1
	G10	98-06		11001832	End cap, side ports	1
	G12	98-06		140644	Plug assembly	1
	G14	98-06		140644	Plug assembly	2
	G18	98-06		11040532	Plug assembly	1
	G34	98-06		672295	Screw, M10 x 45	8
	G60	98-06		515733	Gasket	1
	G80	98-06		315325 (9005110-8700)	Plug assembly	2
K	F10	98-06		508134	Seal ring	1
	F11	98-06		504207	O-ring	1
	F20	98-06		508186	Servo piston assembly	1
	G10	98-06		11041995	End cap, axial metric ports	1
	G12	98-06		140644	Plug assembly	3
	G18	98-06		11040532	Plug assembly	1
	G34	98-06		672295	Screw, M10 x 45	8
	G60	98-06		515733	Gasket	1
R	F10	98-06		508134	Seal ring	1
	F11	98-06		504207	O-ring	1
	F20	98-06		508186	Servo piston assembly	1
	G10	98-06		516902	End cap, side ports	1
	G12	98-06		140644	Plug assembly	1
	G18	98-06		11040532	Plug assembly	1
	G34	98-06		672295	Screw, M10 x 45	8
	G60	98-06		515733	Gasket	1
	G80	98-06		315325 (9005110-8700)	Plug assembly	2

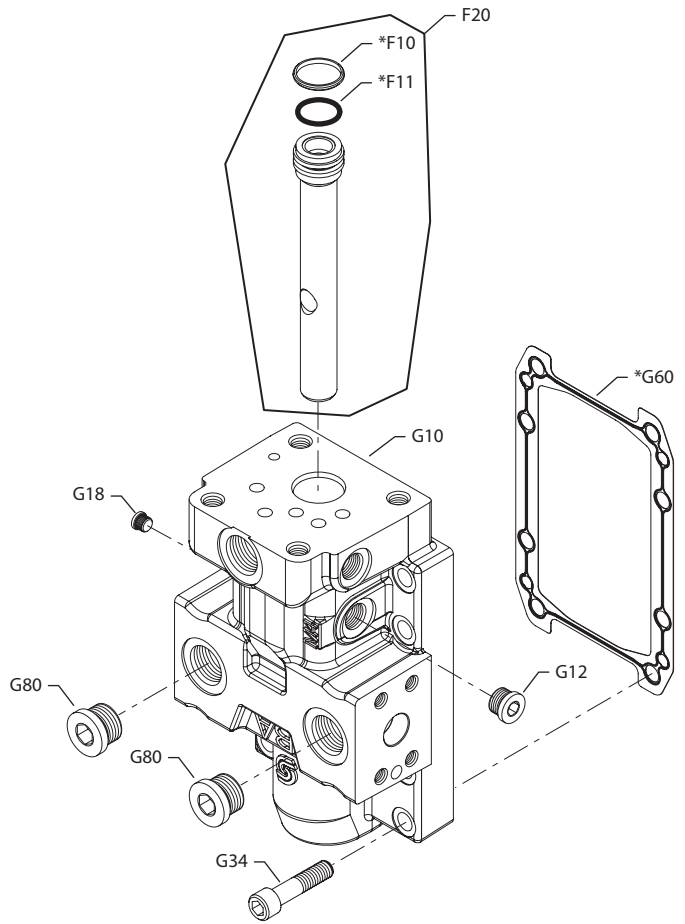


Variable Displacement Motor

(A)



(H & R)



E103 208E

* = included in base motor seal kit Q210


Variable Displacement Motor
End cap, 80cc

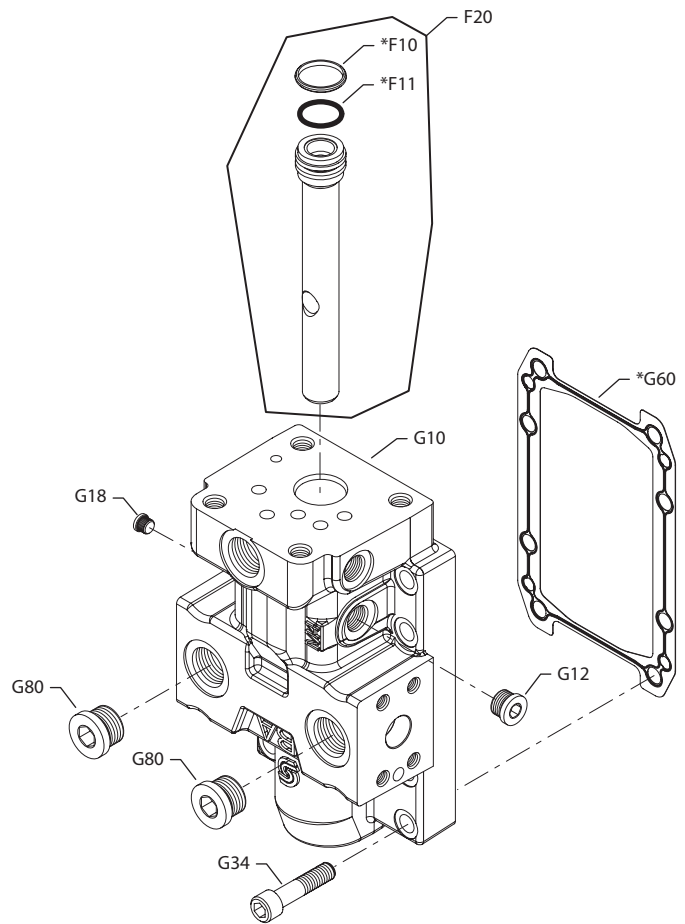
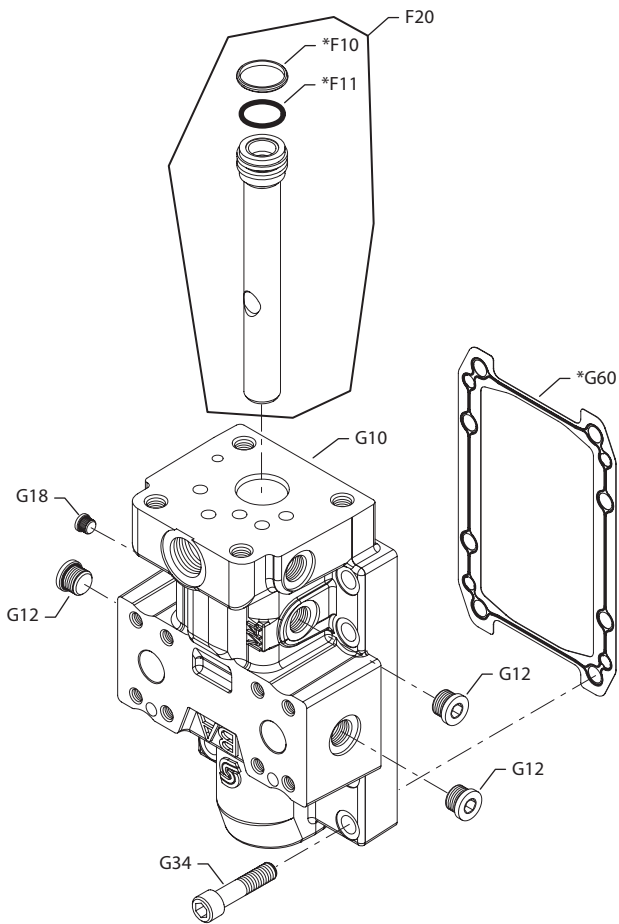
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
A	F10	98-06		508136	Seal ring	1
	F11	98-06		504208	O-ring	1
	F20	98-06		508181	Servo piston assembly	1
	G10	98-06		516907	End cap, axial ports	1
	G12	98-06		140644	Plug assembly	3
	G18	98-06		11040532	Plug assembly	1
	G34	98-06		672295	Screw	8
	G60	98-06		517237	Gasket	1
	H	F10	98-06		508136	Seal ring
F11		98-06		504208	O-ring	1
F20		98-06		508181	Servo piston assembly	1
G10		98-06		516921	End cap, side ports	1
G12		98-06		140644	Plug assembly	1
G18		98-06		11040532	Plug assembly	1
G34		98-06		672295	Screw	8
G60		98-06		517237	Gasket	1
G80		98-06		664524 (9005110-9000)	Plug assembly	2
R	F10	98-06		508136	Seal ring	1
	F11	98-06		504208	O-ring	1
	F20	98-06		508181	Servo piston assembly	1
	G10	98-06		516903	End cap, side ports	1
	G12	98-06		140644	Plug assembly	1
	G18	98-06		11040532	Plug assembly	1
	G34	98-06		672295	Screw	8
	G60	98-06		517237	Gasket	1
	G80	98-06		664524 (9005110-9000)	Plug assembly	2



Variable Displacement Motor

(A)

(H & R)



E103 208E

* = included in base motor seal kit Q210


Variable Displacement Motor
End cap, 110cc

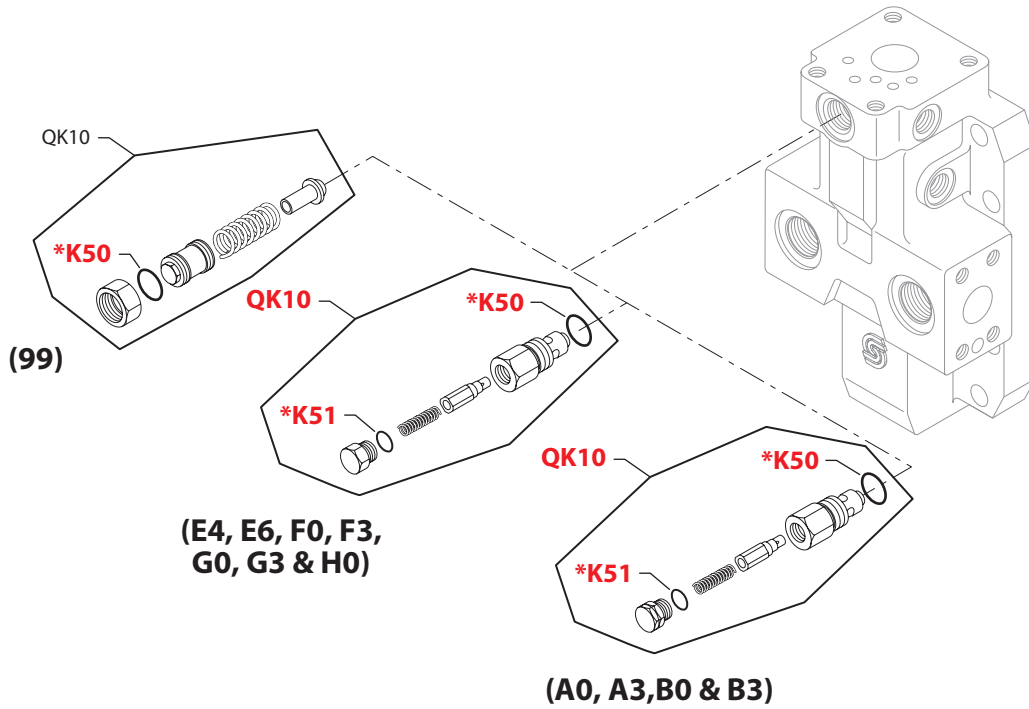
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
A	F10	98-06		648345	Seal ring	1
	F11	98-06		315242	O-ring	1
	F20	98-06		508187	Servo piston assembly	1
	G10	98-06		515697	End cap, axial ports	1
	G12	98-06		140644	Plug assembly	3
	G18	98-06		11040532	Plug assembly	1
	G34	98-06		283325	Screw	8
	G60	98-06		516124	Gasket	1
	H	F10	98-06		648345	Seal ring
F11		98-06		315242	O-ring	1
F20		98-06		508187	Servo piston assembly	1
G10		98-06		516923	End cap, side ports	1
G12		98-06		140644	Plug assembly	1
G18		98-06		11040532	Plug assembly	1
G34		98-06		283325	Screw	8
G60		98-06		516124	Gasket	1
G80		98-06		664524 (9005110-9000)	Plug assembly	2
R	F10	98-06		648345	Seal ring	1
	F11	98-06		315242	O-ring	1
	F20	98-06		508187	Servo piston assembly	1
	G10	98-06		516904	End cap, side ports	1
	G12	98-06		140644	Plug assembly	1
	G18	98-06		11040532	Plug assembly	1
	G34	98-06		283325	Screw	8
	G60	98-06		516124	Gasket	1
	G80	98-06		664524 (9005110-9000)	Plug assembly	2

Threshold/range

N	No parts
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Variable Displacement Motor



E100 285E

* = included in base motor seal kit Q210

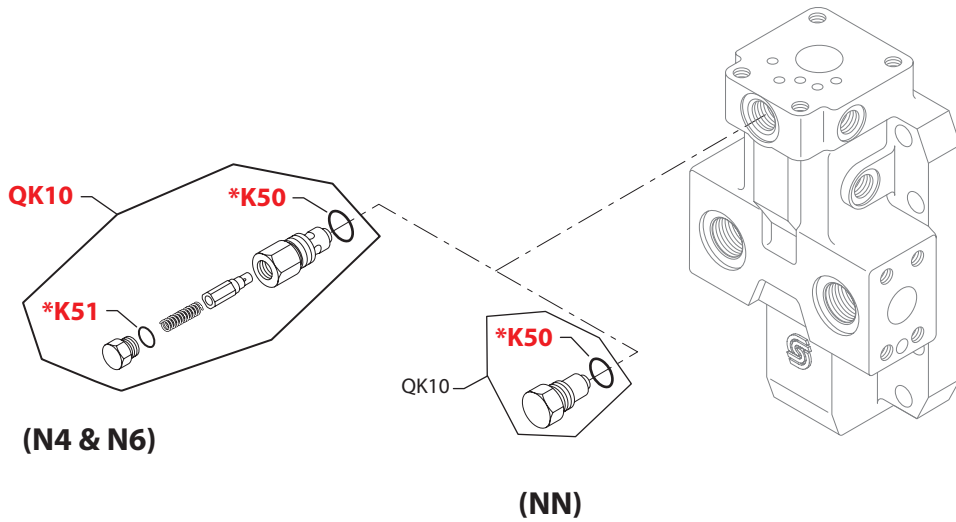
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
Charge pressure relief

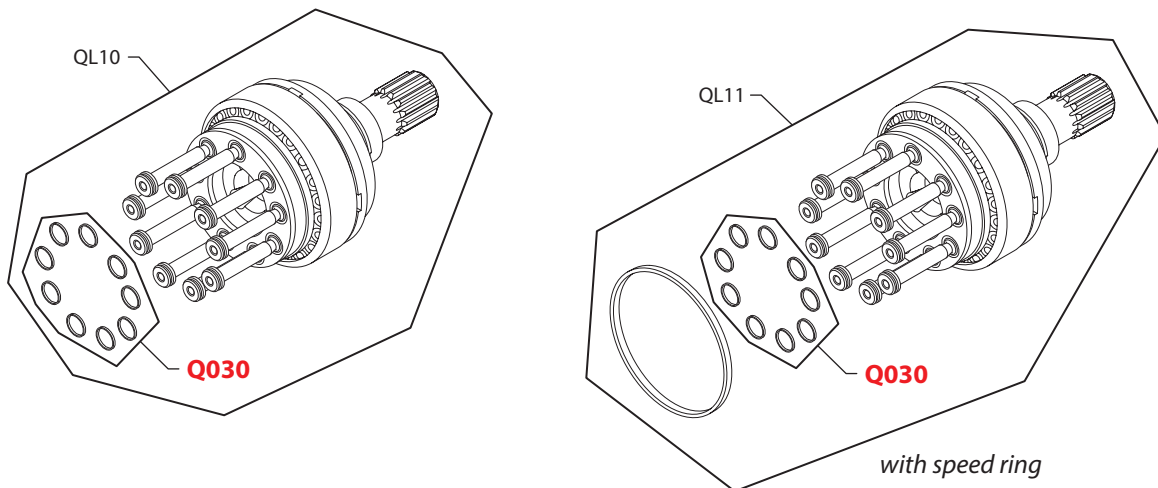
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
99	K50	98-02	01-17	001149 (9004201-6200)	O-ring	1
	QK10	98-02	01-17	8510012	Charge relief valve kit	1
A0	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510253	Cartridge kit, 13 bar, 11 l/min	1
A3	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510256	Cartridge kit, 13 bar, 16 l/min	1
B0	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		11020552	Cartridge kit, 13 bar, 22 l/min	1
B3	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510243	Cartridge kit, 13 bar, 27 l/min	1
E4	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510261	Cartridge kit, 16 bar, 4 l/min	1
E6	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510252	Cartridge kit, 16 bar, 7 l/min	1
F0	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510259	Cartridge kit, 16 bar, 11 l/min	1
F3	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510262	Cartridge kit, 16 bar, 16 l/min	1
G0	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510260	Cartridge kit, 16 bar, 22 l/min	1
G3	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510263	Cartridge kit, 16 bar, 27 l/min	1
H0	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510258	Cartridge kit, 16 bar, 35 l/min	1



Variable Displacement Motor



(C6, D1, D2 & S1)



E103 209E

* = included in base motor seal kit Q210

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


Variable Displacement Motor
Charge pressure relief

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
N4	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510255	Cartridge kit, 13 bar, 4 l/min	1
N6	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		11097072	Cartridge kit, 13 bar, 7 l/min	1
NA				No parts		
NN	K50	97-25		001149 (9004201-6200)	O-ring	1
	QK10	97-25		11097045	Loop flushing defeated kit	1

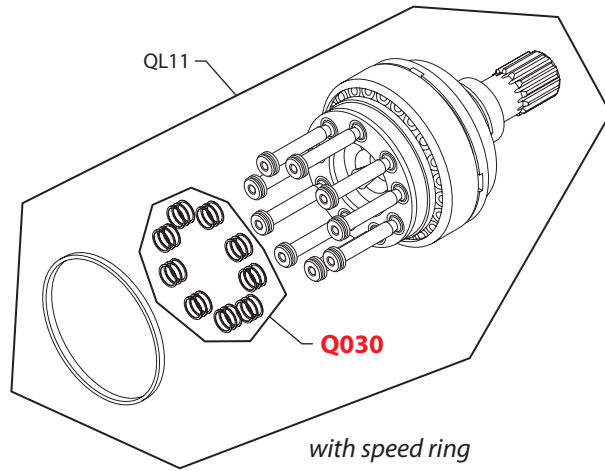
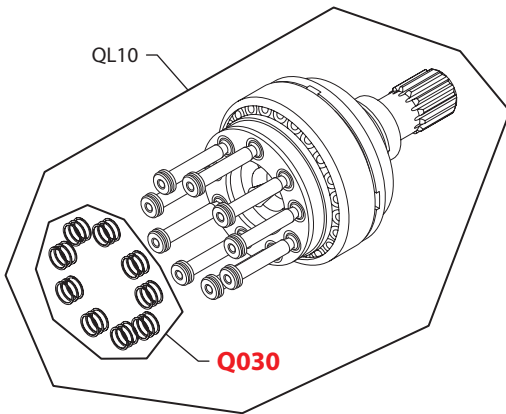
Shaft, 60cc

C6	QL10	98-06		11100425	Shaft, 21 tooth spline without speed ring	1
	QL11	98-06		11100426	Shaft, 21 tooth spline with speed ring	1
	Q030	98-06		11100632	Piston ring kit	1
D1	QL10	98-06		11100443	Shaft, 14 t. spline without speed ring (SB-1999-059)	1
	QL11	98-06		11100444	Shaft, 14 tooth spline with speed ring (SB-1999-059)	1
	Q030	98-06		11100632	Piston ring kit	1
D2	QL10	98-06		11100447	Shaft, 16 t. spline without speed ring (SB-1999-059)	1
	QL11	98-06		11100448	Shaft, 16 tooth spline with speed ring (SB-1999-059)	1
	Q030	98-06		11100632	Piston ring kit	1
S1	QL10	98-06		11100478	Shaft, 14 t. spline without speed ring	1
	QL11	98-06		11100479	Shaft, 14 tooth spline with speed ring	1
	Q030	98-06		11100632	Piston ring kit	1

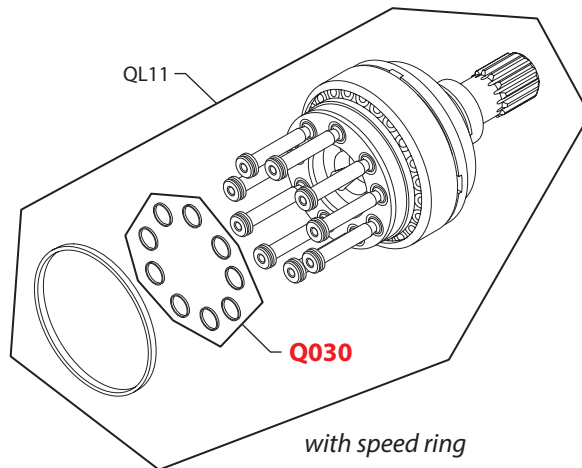
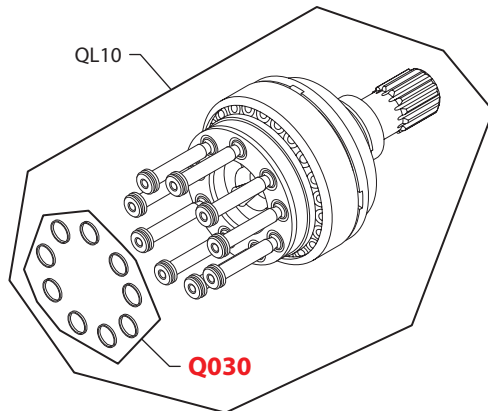


Variable Displacement Motor

80cc
(C6, C7, D2, D3 & S1)



110cc
(C8, D3, D4 & F1)



E103 210E

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


Variable Displacement Motor
Shaft, 80cc

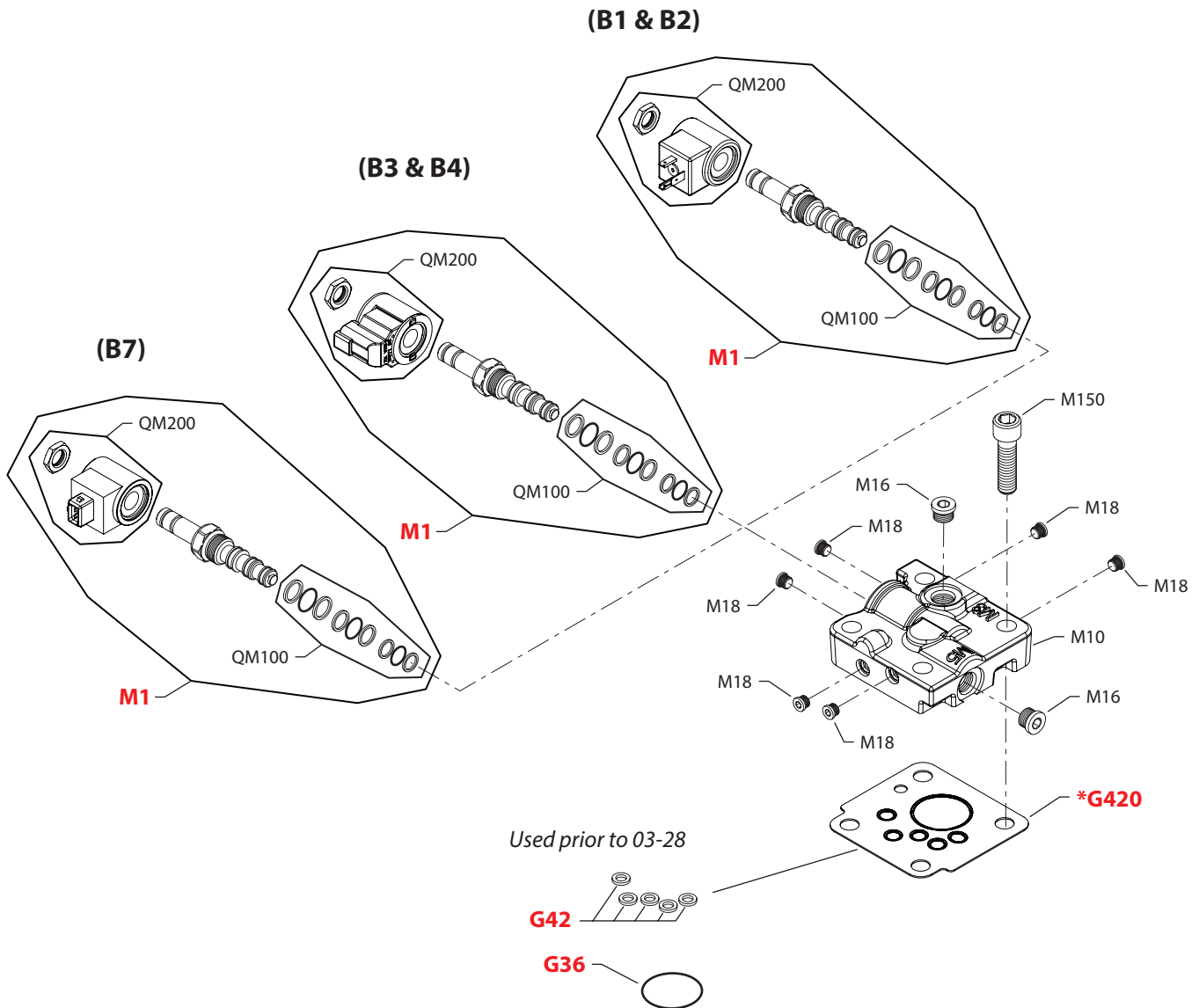
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
C6	QL10	98-06		11110217	Shaft, 21 tooth spline without speed ring	1
	QL11	98-06		11110218	Shaft, 21 tooth spline with speed ring	1
	Q030	03-48		11100633	Piston ring kit (SB-2003-007)	1
	Q030	98-06	03-47	11174675	Piston ring kit (SB-2017-030)	1
C7	QL10	98-06		11100427	Shaft, 23 tooth spline without speed ring	1
	QL11	98-06		11100428	Shaft, 23 tooth spline with speed ring	1
	Q030	03-48		11100633	Piston ring kit (SB-2003-007)	1
	Q030	98-06	03-47	11174675	Piston ring kit (SB-2017-030)	1
D2	QL10	98-06		11100449	Shaft, 16 tooth spline without speed ring (SB-1999-059)	1
	QL11	98-06		11100450	Shaft, 16 tooth spline with speed ring (SB-1999-059)	1
	Q030	03-48		11100633	Piston ring kit (SB-2003-007)	1
	Q030	98-06	03-47	11174675	Piston ring kit (SB-2017-030)	1
D3	QL10	98-06		11100451	Shaft, 18 t. spline without speed ring (SB-1999-059)	1
	QL11	98-06		11100452	Shaft, 18 tooth spline with speed ring (SB-1999-059)	1
	Q030	03-48		11100633	Piston ring kit (SB-2003-007)	1
	Q030	98-06	03-47	11174675	Piston ring kit (SB-2017-030)	1
S1	QL10	98-06		11100481	Shaft, 14 tooth spline without speed ring	1
	QL11	98-06		11100482	Shaft, 14 tooth spline with speed ring	1
	Q030	03-48		11100633	Piston ring kit (SB-2003-007)	1
	Q030	98-06	03-47	11174675	Piston ring kit (SB-2017-030)	1

Shaft, 110cc

C8	QL10	98-06		11100429	Shaft, 27 t. spline without speed ring (SB-1999-059)	1
	QL11	98-06		11100430	Shaft, 27 tooth spline with speed ring (SB-1999-059)	1
	Q030	98-06		11100634	Piston ring kit	1
D3	QL10	98-06		11100453	Shaft, 18 t. spline without speed ring (SB-1999-059)	1
	QL11	98-06		11100454	Shaft, 18 tooth spline with speed ring (SB-1999-059)	1
	Q030	98-06		11100634	Piston ring kit	1
D4	QL10	98-06		11100455	Shaft, 21 t. spline without speed ring (SB-1999-059)	1
	QL11	98-06		11100456	Shaft, 21 tooth spline with speed ring (SB-1999-059)	1
	Q030	98-06		11100634	Piston ring kit	1
F1	QL10	98-06		11100435	Shaft, 13 tooth spline without speed ring	1
	QL11	98-06		11100436	Shaft, 13 tooth spline with speed ring	1
	Q030	98-06		11100634	Piston ring kit	1



Variable Displacement Motor



* = included in base motor seal kit Q210

E100 286E

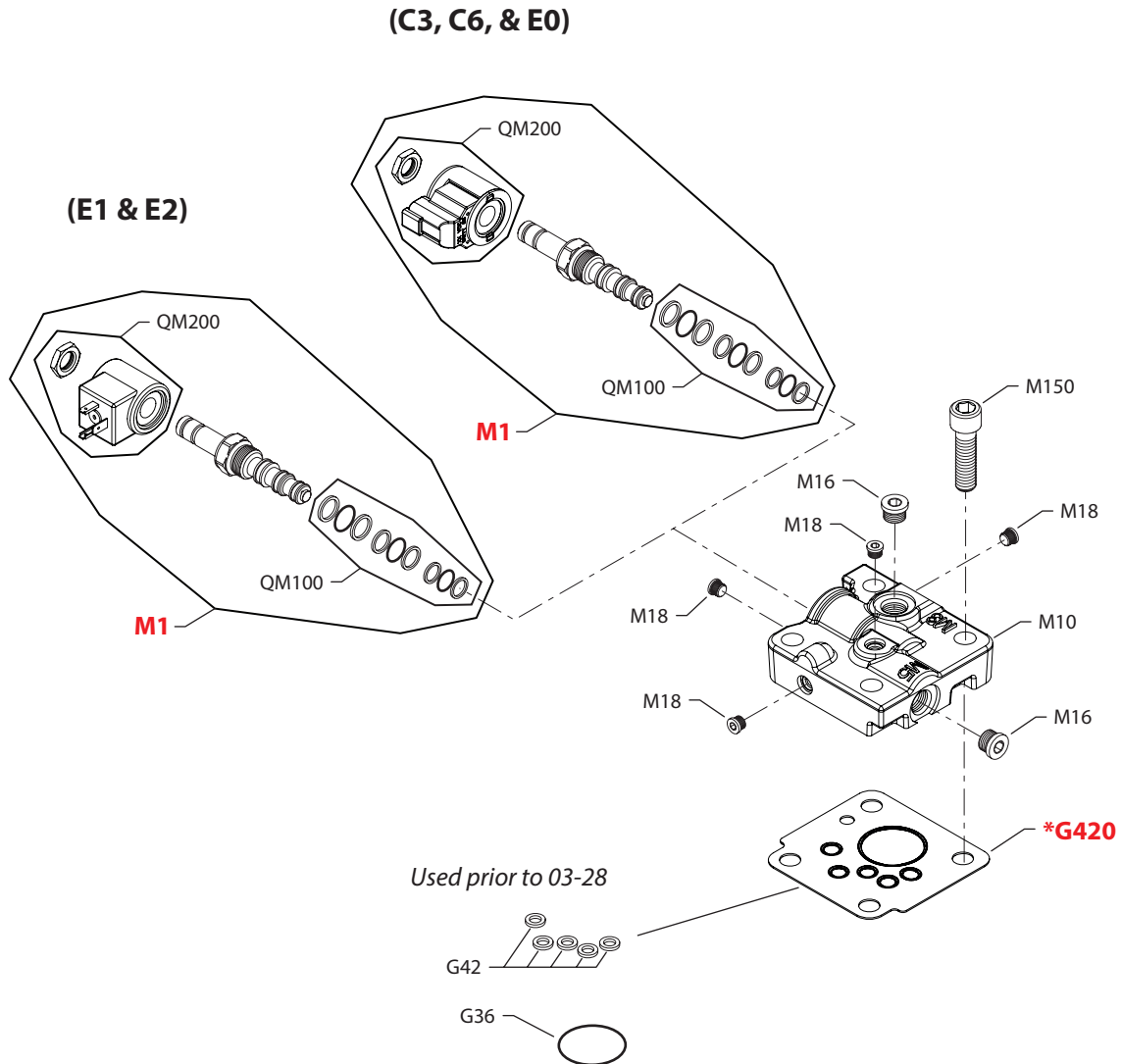
Enlarged **bold** type item numbers are recommended part to stock for servicing.

Variable Displacement Motor
Electric-hydraulic 2-position control

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
	G36	98-30	03-27	364976	O-ring, 60cc (SB-2002-001)	1
	G36	98-30	03-27	507998	O-ring, 80cc (SB-2002-001)	1
	G36	98-30	03-27	506754	O-ring, 110cc (SB-2002-001)	1
	G42	98-30	03-27	754580	O-ring (SB-2002-001)	5
	G420	03-28		512411	Gasket/O-ring seal (SB-2002-001)	1
B1	M1	98-13		502404	Solenoid valve, 12 volt, DIN connector	1
	M10	98-13		511347	Control housing	1
	M16	98-13		140644	Plug assembly	2
	M18	98-13		11040532	Plug assembly	6
	M150	98-13		503499	Screw, M12 x 45	4
	QM100	98-13		520337	Solenoid valve seal kit	1
	QM200	98-13		11146863	Coil kit, 12 volt, DIN connector	1
B2	M1	98-30		504114	Solenoid valve, 24 volt, DIN connector	1
	M10	98-30		511347	Control housing	1
	M16	98-30		140644	Plug assembly	2
	M18	98-30		11040532	Plug assembly	6
	M150	98-30		503499	Screw, M12 x 45	4
	QM100	98-30		520337	Solenoid valve seal kit	1
	QM200	98-30		11146864	Coil kit, 24 volt, DIN connector	1
B3	M1	07-07		519465/P	Solenoid valve, 12 volt, Deutsch connector	1
	M10	07-07		511347	Control housing	1
	M16	07-07		140644	Plug assembly	2
	M18	07-07		11040532	Plug assembly	6
	M150	07-07		503499	Screw, M12 x 45	4
	QM100	07-07		520337	Solenoid valve seal kit	1
	QM200	07-07		11013048	Coil kit, 12 volt, Deutsch connector	1
B4	M1	07-21		521226/P	Solenoid valve, 24 volt, Deutsch connector	1
	M10	07-21		511347	Control housing	1
	M16	07-21		140644	Plug assembly	2
	M18	07-21		11040532	Plug assembly	6
	M150	07-21		503499	Screw, M12 x 45	4
	QM100	07-21		520337	Solenoid valve seal kit	1
	QM200	07-21		11013049	Coil kit, 24 volt, Deutsch connector	1
B7	M1	98-06		507952	Solenoid valve, 12 volt, Jet connector	1
	M10	98-06		511347	Control housing	1
	M16	98-06		140644	Plug assembly	2
	M18	98-06		11040532	Plug assembly	6
	M150	98-06		503499	Screw, M12 x 45	4
	QM100	98-06		520337	Solenoid valve seal kit	1
	QM200	98-06		11146866	Coil kit, 12 volt, Jet connector	1



Variable Displacement Motor



E100 287E

* = included in base motor seal kit Q210

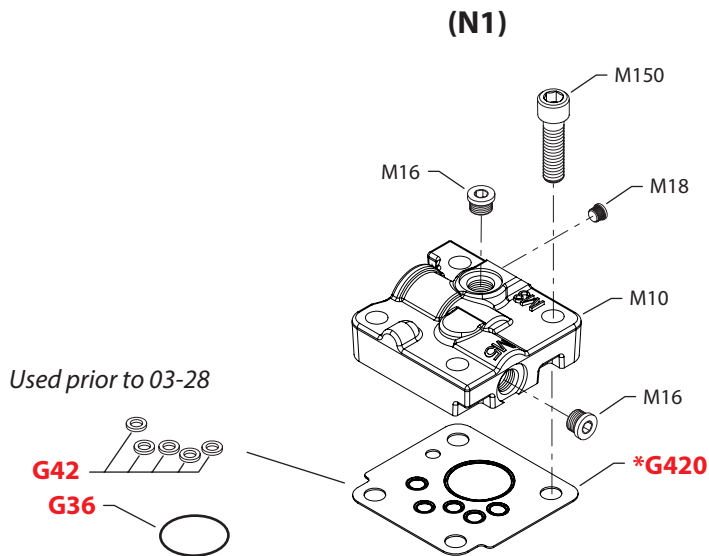
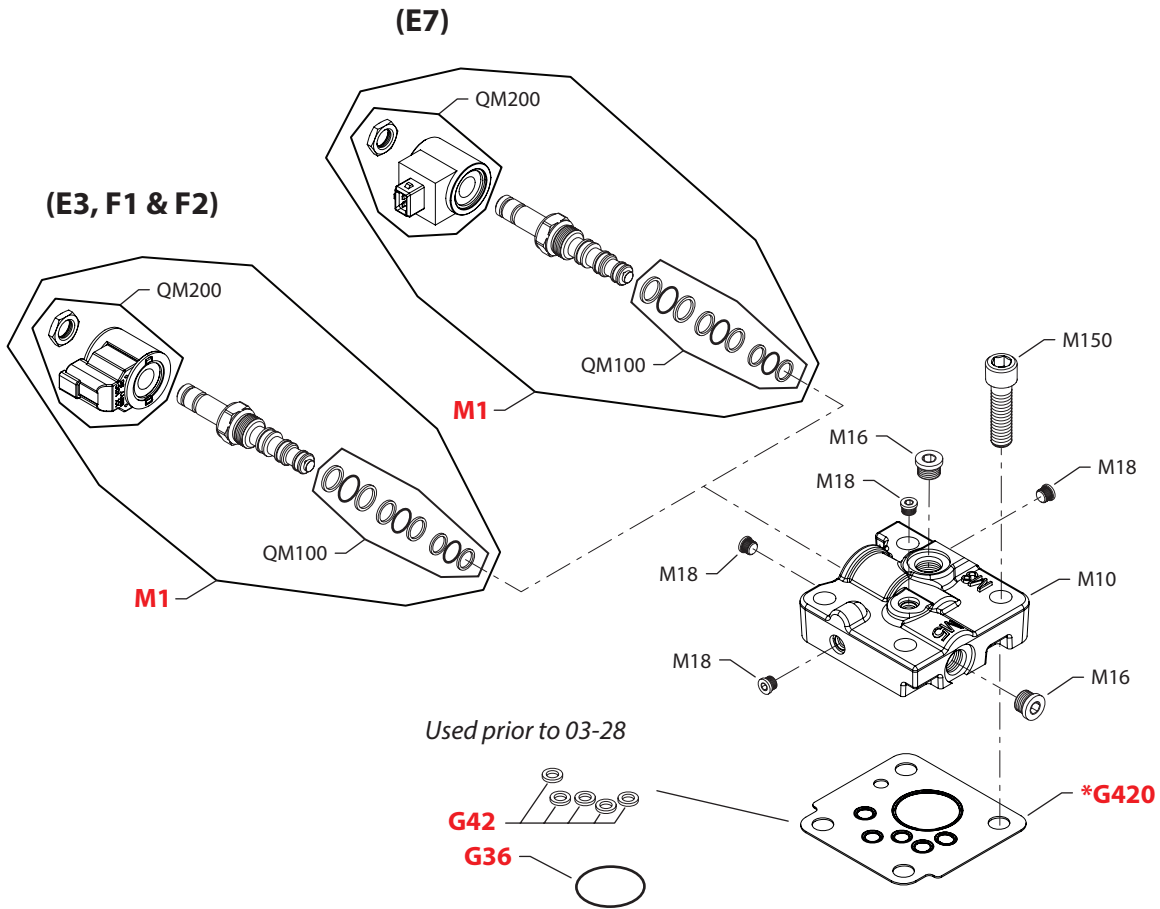
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
Electric-hydraulic 2-position control

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
	G36	98-30	03-27	364976	O-ring, 60cc (SB-2002-001)	1
	G36	98-30	03-27	507998	O-ring, 80cc (SB-2002-001)	1
	G36	98-30	03-27	506754	O-ring, 110cc (SB-2002-001)	1
	G42	98-30	03-27	754580	O-ring (SB-2002-001)	5
	G420	03-28		512411	Gasket/O-ring seal (SB-2002-001)	1
C3	M1	99-01		519465/P	Solenoid valve, 12 volt, Deutsch connector	1
	M10	99-01		506712	Control housing	1
	M16	99-01		140644	Plug assembly	2
	M18	99-01		11040532	Plug assembly	4
	M150	99-01		503499	Screw, M12 x 45	4
	QM100	99-01		520337	Solenoid valve seal kit	1
	QM200	99-01		11013048	Coil kit, 12 volt, Deutsch connector	1
C6	M1	00-21		516538/P	Solenoid valve, 24 volt, Metr-Pack connector	1
	M10	00-21		506712	Control housing	1
	M16	00-21		140644	Plug assembly	2
	M18	00-21		11040532	Plug assembly	4
	M150	00-21		503499	Screw, M12 x 45	4
	QM100	00-21		520337	Solenoid valve seal kit	1
	QM200	00-21		11146867	Coil kit, 24 volt, Metr-Pack connector	1
E0	M1	99-01		521045	Solenoid valve, 24 volt, Deutsch connector	1
	M10	99-01		506712	Control housing	1
	M16	99-01		140644	Plug assembly	2
	M18	99-01		11040532	Plug assembly	4
	M150	99-01		503499	Screw, M12 x 45	4
	QM100	99-01		520337	Solenoid valve seal kit	1
	QM200	99-01		11146869	Coil kit, 24 volt, Deutsch connector	1
E1	M1	98-30		502404	Solenoid valve, 12 volt, DIN connector	1
	M10	98-30		506712	Control housing	1
	M16	98-30		140644	Plug assembly	2
	M18	98-30		11040532	Plug assembly	4
	M150	98-30		503499	Screw, M12 x 45	4
	QM100	98-30		520337	Solenoid valve seal kit	1
	QM200	98-30		11146863	Coil kit, 12 volt, DIN connector	1
E2	M1	98-30		504114	Solenoid valve, 24 volt, DIN connector	1
	M10	98-30		506712	Control housing	1
	M16	98-30		140644	Plug assembly	2
	M18	98-30		11040532	Plug assembly	4
	M150	98-30		503499	Screw, M12 x 45	4
	QM100	98-30		520337	Solenoid valve seal kit	1
	QM200	98-30		11146864	Coil kit, 24 volt, DIN connector	1



Variable Displacement Motor



E103 211E

* = included in base motor seal kit Q210

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


Variable Displacement Motor
Electric-hydraulic 2-position control

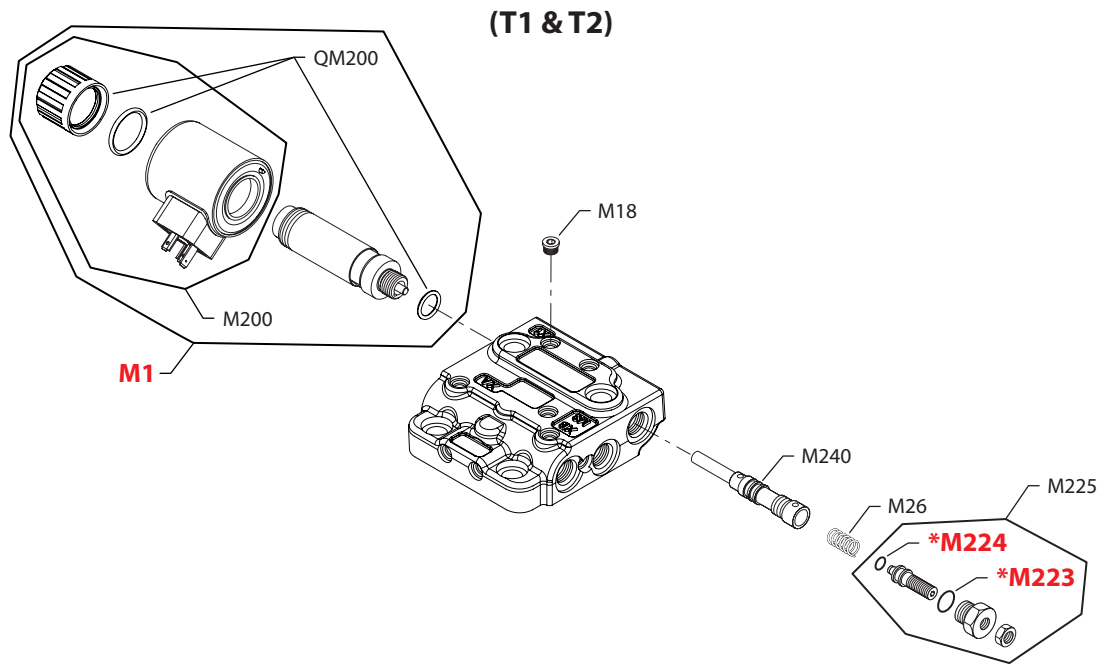
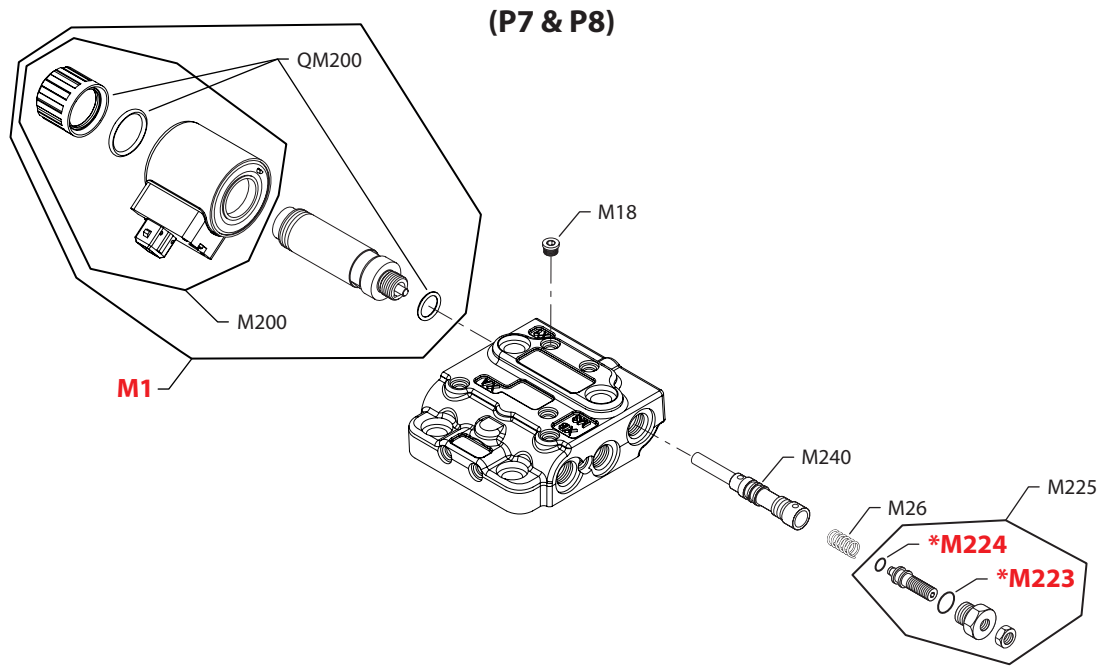
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
	G36	98-30	03-27	364976	O-ring, 60cc (SB-2002-001)	1
	G36	98-30	03-27	507998	O-ring, 80cc (SB-2002-001)	1
	G36	98-30	03-27	506754	O-ring, 110cc (SB-2002-001)	1
	G42	98-30	03-27	754580	O-ring (SB-2002-001)	5
	G420	03-28		512411	Gasket/O-ring seal (SB-2002-001)	1
E3	M1	10-15		519465/P	Solenoid valve, 12 volt, Deutsch connector	1
	M10	10-15		506712	Control housing	1
	M16	10-15		140644	Plug assembly	2
	M18	10-15		11040532	Plug assembly	4
	M150	10-15		503499	Screw, M12 x 45	4
	QM100	10-15		520337	Solenoid valve seal kit	1
	QM200	10-15		11013048	Coil kit, 12 volt, Deutsch connector	1
E7	M1	98-30		507952	Solenoid valve, 12 volt, Jet connector	1
	M10	98-30		506712	Control housing	1
	M16	98-30		140644	Plug assembly	2
	M18	98-30		11040532	Plug assembly	4
	M150	98-30		503499	Screw, M12 x 45	4
	QM100	98-30		520337	Solenoid valve seal kit	1
	QM200	98-30		11146866	Coil kit, 12 volt, Jet connector	1
F1	M1	98-30		502404	Solenoid valve, 12 volt, DIN connector	1
	M10	98-30		506713	Control housing	1
	M16	98-30		140644	Plug assembly	2
	M18	98-30		11040532	Plug assembly	4
	M150	98-30		503499	Screw, M12 x 45	4
	QM100	98-30		520337	Solenoid valve seal kit	1
	QM200	98-30		11146863	Coil kit, 12 volt, DIN connector	1
F2	M1	98-30		504114	Solenoid valve, 24 volt, DIN connector	1
	M10	98-30		506713	Control housing	1
	M16	98-30		140644	Plug assembly	2
	M18	98-30		11040532	Plug assembly	4
	M150	98-30		503499	Screw, M12 x 45	4
	QM100	98-30		520337	Solenoid valve seal kit	1
	QM200	98-30		11146864	Coil kit, 24 volt, DIN connector	1

Hydraulic 2-position

N1	M10	98-30		507696	Control housing	1
	M16	98-30		140644	Plug assembly	2
	M18	98-30		11040532	Plug assembly	1
	M150	98-30		503499	Screw, M12 x 45	4



Variable Displacement Motor



E100 288E

* = included in base motor seal kit Q210

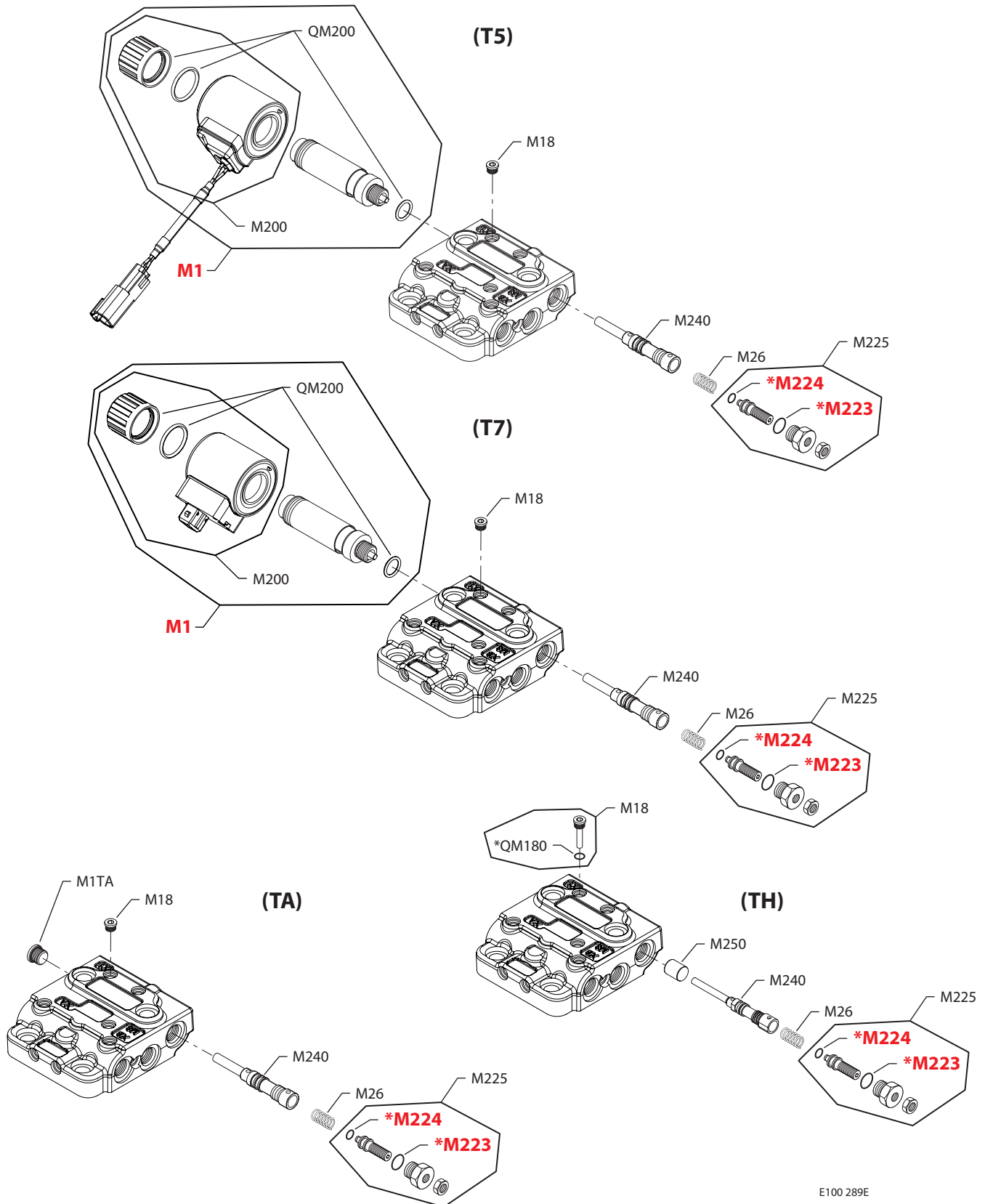
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
Electric 2-position

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
P7	M1	01-01		11026438	Solenoid valve, 12 volt, Jet connector	1
	M18	01-01		11040532	Plug assembly	1
	M26	01-01		518382	Spring	1
	M200	01-01		11026450	Coil kit, 12 volt, Jet connector	1
	M223	01-01		085043 (9004201-3700)	O-ring	1
	M224	01-01		732479 (9004105-0100)	O-ring	1
	M225	01-01		509360	Pressure compensator adjuster	1
	M240	01-01		11138479	Piston	1
	QM200	01-01		11121251	Coil nut kit	1
P8	M1	01-01		11026440	Solenoid valve, 24 volt, Jet connector	1
	M18	01-01		11040532	Plug assembly	1
	M26	01-01		518382	Spring	1
	M200	01-01		11026451	Coil kit, 24 volt, Jet connector	1
	M223	01-01		085043 (9004201-3700)	O-ring	1
	M224	01-01		732479 (9004105-0100)	O-ring	1
	M225	01-01		509360	Pressure compensator adjuster	1
	M240	01-01		11138479	Piston	1
	QM200	01-01		11121251	Coil nut kit	1
T1	M1	98-30		11026435	Solenoid valve, 12 volt, DIN connector	1
	M18	98-30		11040532	Plug assembly	1
	M26	98-30		518382	Spring	1
	M200	98-30		11026448	Coil kit, 12 volt, DIN connector	1
	M223	98-30		085043 (9004201-3700)	O-ring	1
	M224	98-30		732479 (9004105-0100)	O-ring	1
	M225	98-30		509360	Pressure compensator adjuster	1
	M240	98-30		11138479	Piston	1
	QM200	98-30		11121273	Coil nut kit	1
T2	M1	98-30		11026436	Solenoid valve, 24 volt, DIN connector	1
	M18	98-30		11040532	Plug assembly	1
	M26	98-30		518382	Spring	1
	M200	98-30		11026449	Coil kit, 24 volt, DIN connector	1
	M223	98-30		085043 (9004201-3700)	O-ring	1
	M224	98-30		732479 (9004105-0100)	O-ring	1
	M225	98-30		509360	Pressure compensator adjuster	1
	M240	98-30		11138479	Piston	1
	QM200	98-30		11121273	Coil nut kit	1



Variable Displacement Motor



* = included in base motor seal kit Q210

E100 289E

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


Variable Displacement Motor
Electric-2-position

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
T5	M1	01-01		11047613	Solenoid valve, 12 volt	1
	M18	01-01		11040532	Plug assembly	1
	M26	01-01		518382	Spring	1
	M200	01-01		11047612	Coil kit, 12 volt	1
	M223	01-01		085043 (9004201-3700)	O-ring	1
	M224	01-01		732479 (9004105-0100)	O-ring	1
	M225	01-01		509360	Pressure compensator adjuster	1
	M240	01-01		11138479	Piston	1
	QM200	01-01		11121272	Coil nut kit	1
T7	M1	98-30		519468	Solenoid valve, 12 volt, Jet connector	1
	M18	01-01		11040532	Plug assembly	1
	M26	01-01		518382	Spring	1
	M200	01-01		519467	Coil kit, 12 volt, Jet connector	1
	M223	01-01		085043 (9004201-3700)	O-ring	1
	M224	01-01		732479 (9004105-0100)	O-ring	1
	M225	01-01		509360	Pressure compensator adjuster	1
	M240	01-01		11138479	Piston	1
	QM200	01-01		11121272	Coil nut kit	1

Pressure compensator

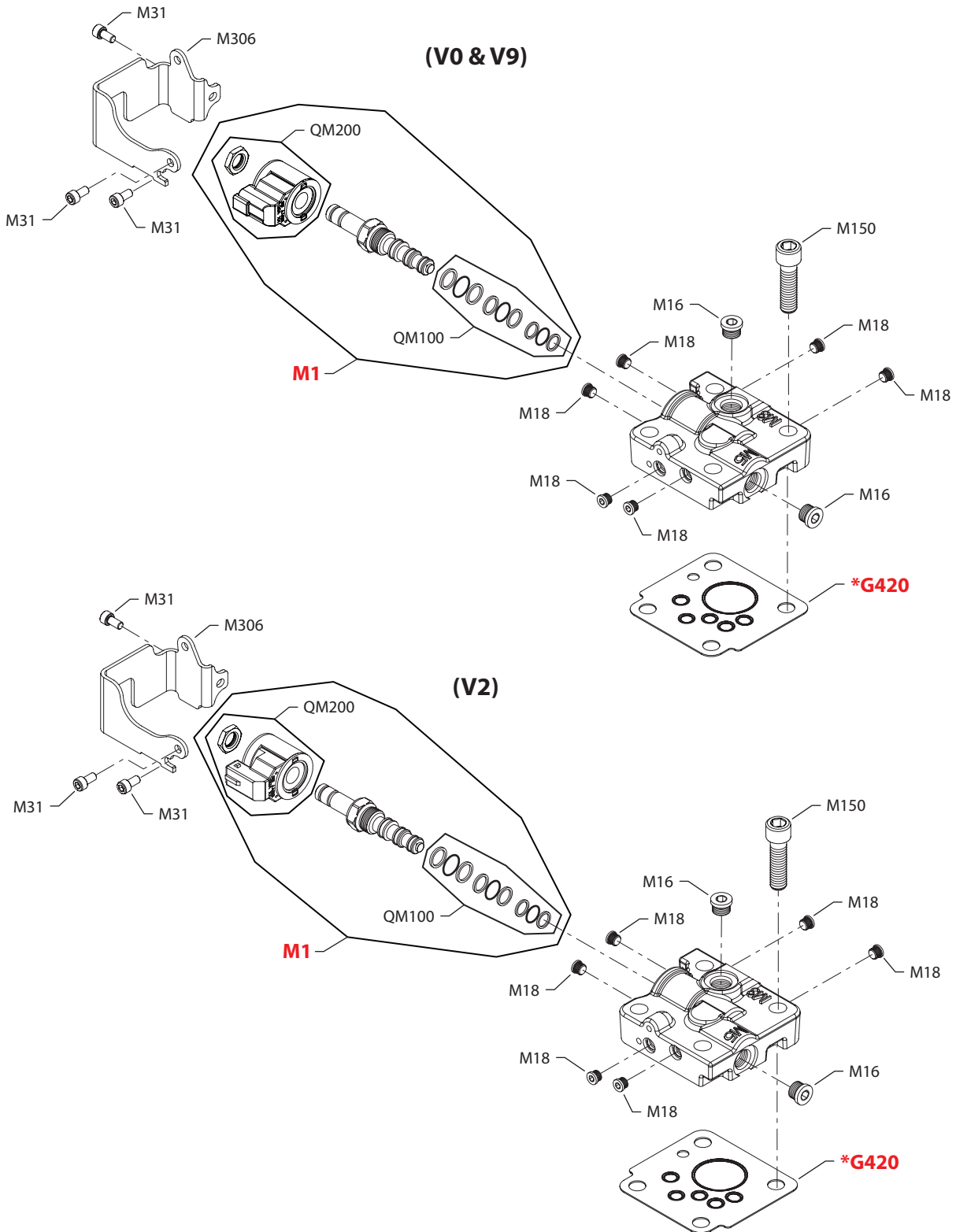
TA	M1TA	98-30		140644	Plug assembly	1
	M18	98-30		11040532	Plug assembly	1
	M26	98-30		518382	Spring	1
	M223	98-30		085043 (9004201-3700)	O-ring	1
	M224	98-30		732479 (9004105-0100)	O-ring	1
	M225	98-30		509360	Pressure compensator adjuster	1
	M240	98-30		11140483	Piston	1

Hydraulic-2-position

TH	M18	98-30		511244	Spool locator plug assembly	1
	M26	98-30		518382	Spring	1
	M223	98-30		085043 (9004201-3700)	O-ring	1
	M224	98-30		732479 (9004105-0100)	O-ring	1
	M225	98-30		509360	Pressure compensator adjuster	1
	M240	98-30		11140483	Piston	1
	M250	98-30		11140491	Spool	1
	QM180	98-30		039297	O-ring	1



Variable Displacement Motor



E103 212E

* = included in base motor seal kit Q210

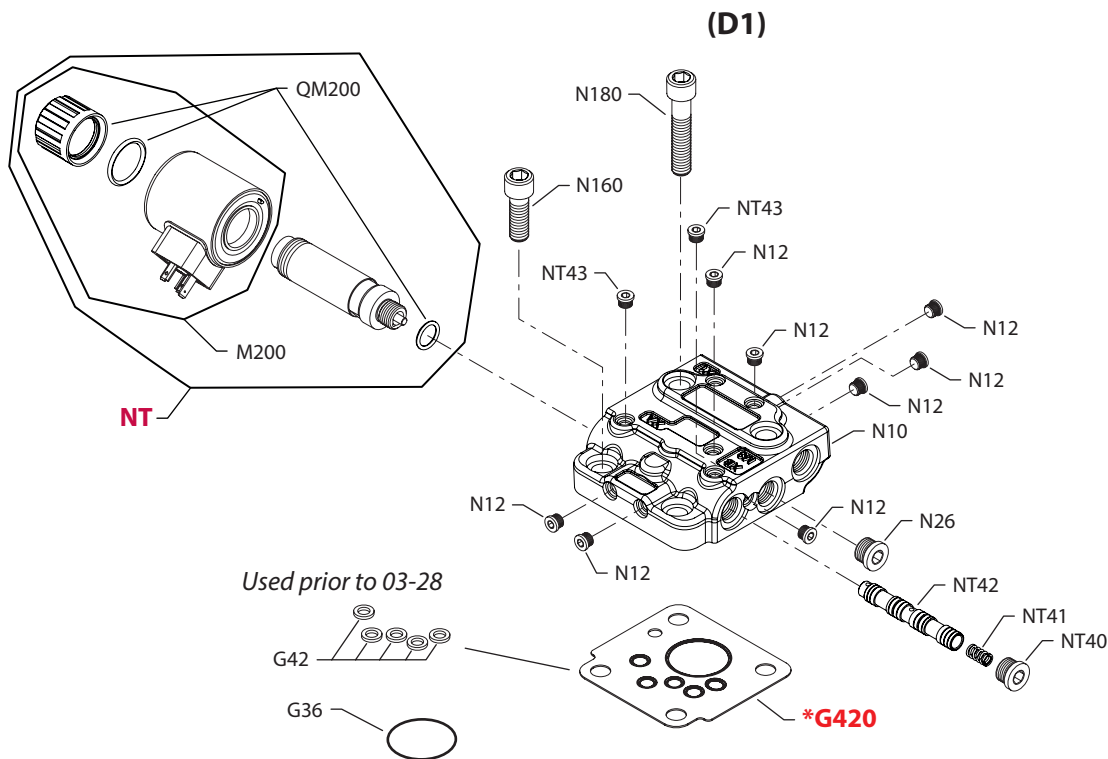
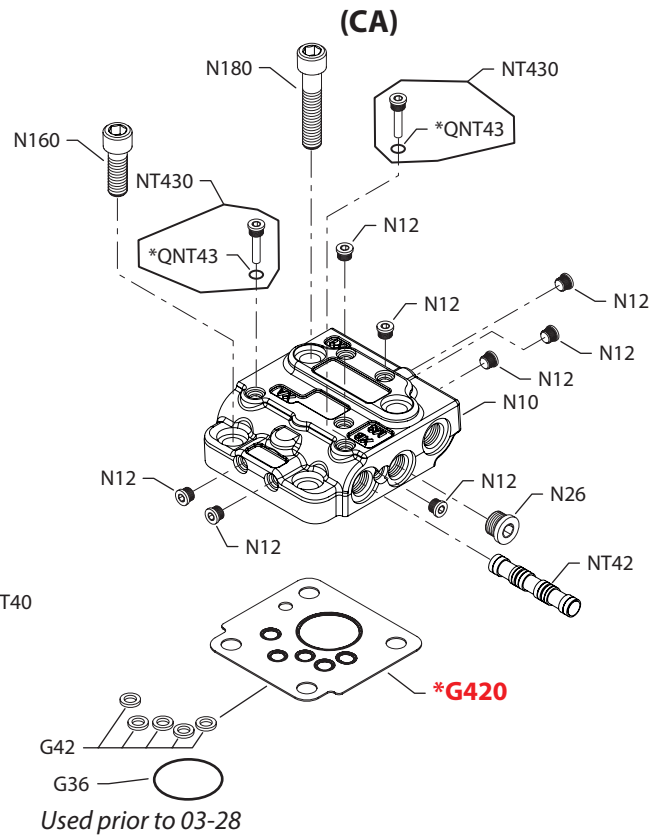
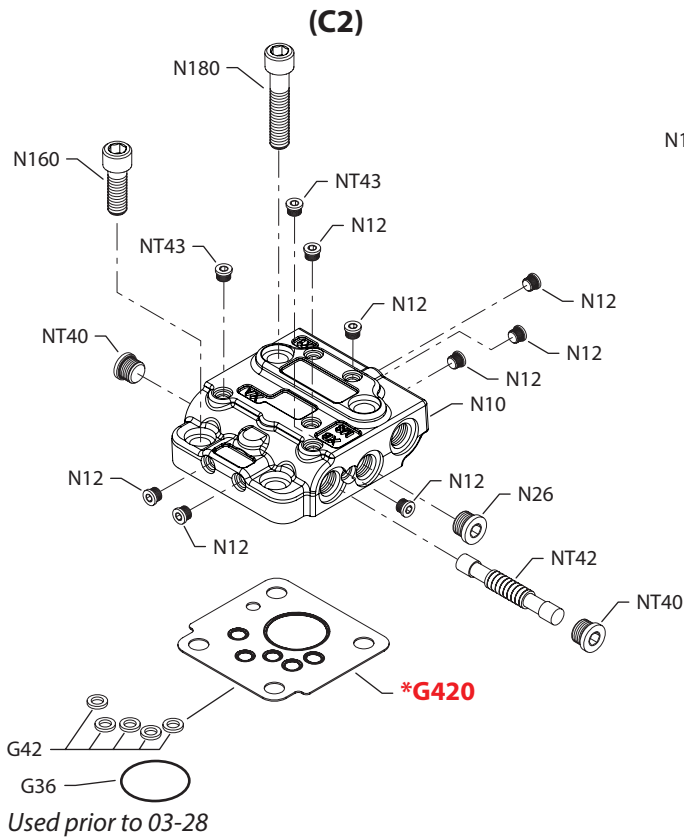
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
Electric-Hydraulic 2-position

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
V0	G420	04-25		512411	Gasket/O-ring seal	1
	M1	04-25		521226/P	Solenoid valve, 24 volt, Deutsch connector	1
	M10	04-25		11034149	Control housing	1
	M16	04-25		140644	Plug assembly	2
	M18	04-25		11040532	Plug assembly	6
	M31	04-25		395822	Screw, M6 x 12	3
	M150	04-25		503499	Screw, M12 x 45	4
	M306	04-25		11034150	Guard	1
	QM100	04-25		520337	Solenoid valve seal kit	1
	QM200	04-25		11013049	Coil kit, 24 volt, Deutsch connector	1
V2	G420	10-45		512411	Gasket/O-ring seal	1
	M1	10-45		11087515	Solenoid valve, 24 volt	1
	M10	10-45		11034149	Control housing	1
	M16	10-45		140644	Plug assembly	2
	M18	10-45		11040532	Plug assembly	6
	M31	10-45		395822	Screw, M6 x 12	3
	M150	10-45		503499	Screw, M12 x 45	4
	M306	10-45		11034150	Guard	1
	QM100	10-45		520337	Solenoid valve seal kit	1
	QM200	10-45		11146868	Coil kit, 24 volt	1
V9	G420	04-25		512411	Gasket/O-ring seal	1
	M1	04-25		519465/P	Solenoid valve, 12 volt, Deutsch connector	1
	M10	04-25		11034149	Control housing	1
	M16	04-25		140644	Plug assembly	2
	M18	04-25		11040532	Plug assembly	6
	M31	04-25		395822	Screw, M6 x 12	3
	M150	04-25		503499	Screw, M12 x 45	4
	M306	04-25		11034150	Guard	1
	QM100	04-25		520337	Solenoid valve seal kit	1
	QM200	04-25		11013048	Coil kit, 12 volt, Deutsch connector	1



Variable Displacement Motor



E100 290E

* = included in base motor seal kit Q210

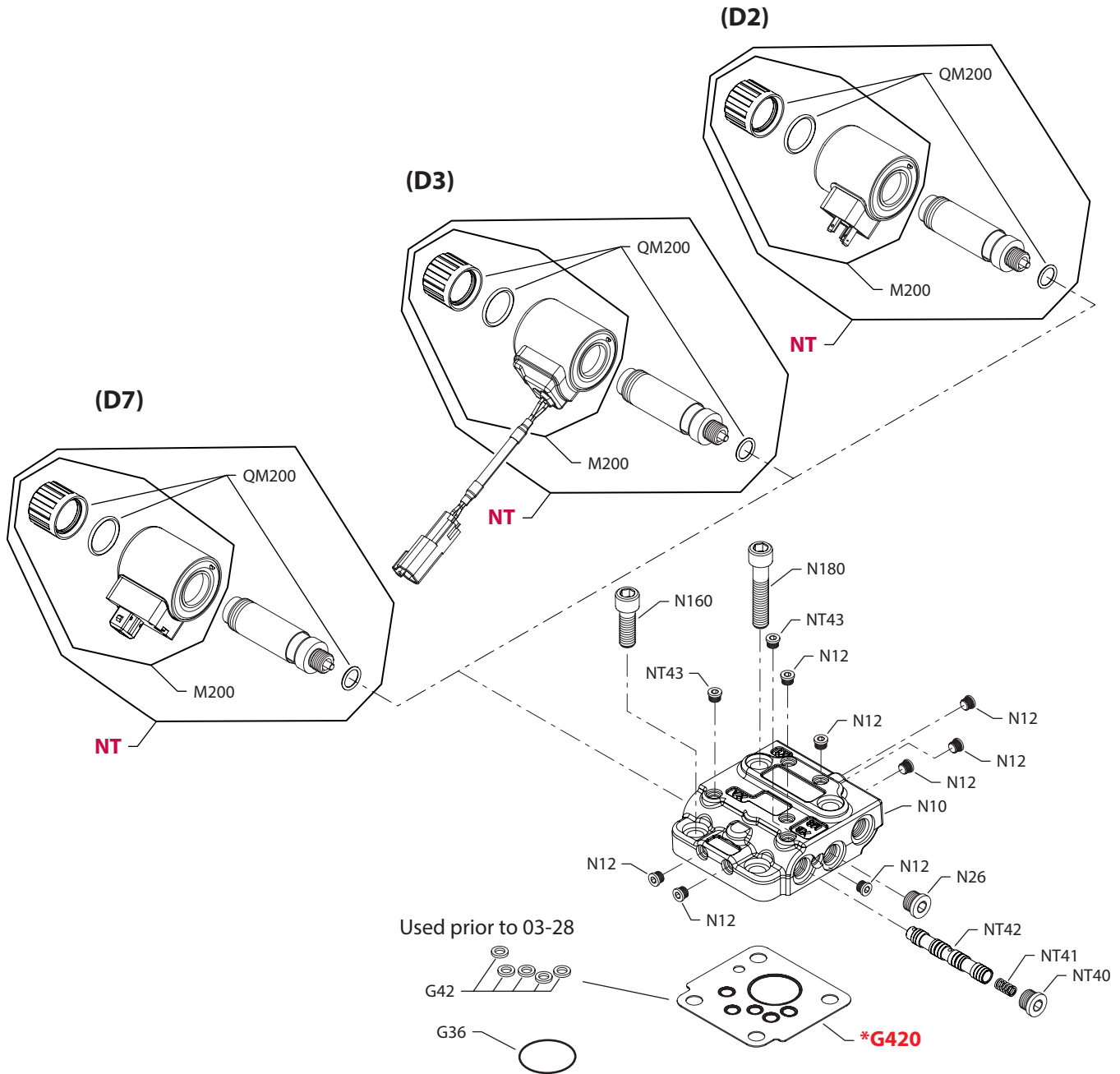
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
Servo pressure supply

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
B1 & B3				No parts		
C2	G36	98-30	03-27	364976	O-ring, 60cc (SB-2002-001)	1
	G36	98-30	03-27	507998	O-ring, 80cc (SB-2002-001)	1
	G36	98-30	03-27	506754	O-ring, 110cc (SB-2002-001)	1
	G42	98-30	03-27	754580	O-ring (SB-2002-001)	5
	G420	03-28		512411	Gasket/O-ring seal (SB-2002-001)	1
	N10	98-30		510547	Control housing	1
	N12	98-30		11040532	Plug assembly	8
	N26	98-30		140644	Plug assembly	1
	NT40	98-30		140644	Plug assembly	2
	NT42	98-30		11140484	Piston	1
	NT43	98-30		11040532	Plug assembly	2
	N160	98-30		085183	Screw, M12 x 35	2
	N180	98-30		914127 (9007314-1213)	Screw, M12 x 60	2
CA	G36	98-30	03-27	364976	O-ring, 60cc (SB-2002-001)	1
	G36	98-30	03-27	507998	O-ring, 80cc (SB-2002-001)	1
	G36	98-30	03-27	506754	O-ring, 110cc (SB-2002-001)	1
	G42	98-30	03-27	754580	O-ring (SB-2002-001)	5
	G420	03-28		512411	Gasket/O-ring seal (SB-2002-001)	1
	N10	98-30		510547	Control housing	1
	N12	98-30		11040532	Plug assembly	8
	N26	98-30		140644	Plug assembly	1
	NT42	98-30		11140485	Piston	1
	NT430	98-30		511244	Spool locator plug assembly	2
	N160	98-30		085183	Screw, M12 x 35	2
	N180	98-30		914127 (9007314-1213)	Screw, M12 x 60	2
	QNT43	98-30		039297 (9004201-1200)	O-ring	2
D1	G36	98-30	03-27	364976	O-ring, 60cc (SB-2002-001)	1
	G36	98-30	03-27	507998	O-ring, 80cc (SB-2002-001)	1
	G36	98-30	03-27	506754	O-ring, 110cc (SB-2002-001)	1
	G42	98-30	03-27	754580	O-ring (SB-2002-001)	5
	G420	03-28		512411	Gasket/O-ring seal (SB-2002-001)	1
	M200	98-30		11026448	Coil kit, 12 volt, DIN connector	1
	N10	98-30		510547	Control housing	1
	N12	98-30		11040532	Plug assembly	8
	N26	98-30		140644	Plug assembly	1
	N160	98-30		085183	Screw, M12 x 35	2
	N180	98-30		914127 (9007314-1213)	Screw, M12 x 60	2
	NT	98-30		11026435	Solenoid valve, 12 volt, DIN connector	1
	NT40	98-30		140644	Plug assembly	1
	NT41	98-30		518382	Spring	1
	NT42	98-30		11049310	Piston	1
	NT43	98-30		11040532	Plug assembly	2
	QM200	98-30		11121273	Solenoid valve seal kit	1



Variable Displacement Motor



E103 213E

* = included in base motor seal kit Q210

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

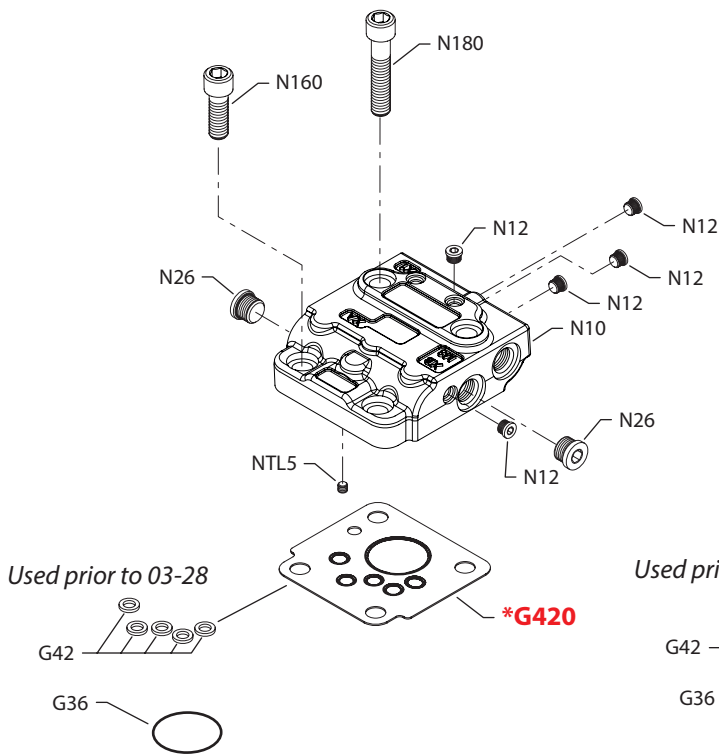

Variable Displacement Motor
Servo pressure supply

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit	
D2	G36	98-30	03-27	364976	O-ring, 60cc (SB-2002-001)	1	
	G36	98-30	03-27	507998	O-ring, 80cc (SB-2002-001)	1	
	G36	98-30	03-27	506754	O-ring, 110cc (SB-2002-001)	1	
	G42	98-30	03-27	754580	O-ring (SB-2002-001)	5	
	G420	03-28		512411	Gasket/O-ring seal (SB-2002-001)	1	
	M200	98-30		11026449	Coil kit, 24 volt, DIN connector	1	
	N10	98-30		510547	Control housing	1	
	N12	98-30		11040532	Plug assembly	8	
	N26	98-30		140644	Plug assembly	1	
	N160	98-30		085183	Screw, M12 x 35	2	
	N180	98-30		914127 (9007314-1213)	Screw, M12 x 60	2	
	NT	98-30		11026436	Solenoid valve, 24 volt, DIN connector	1	
	NT40	98-30		140644	Plug assembly	1	
	NT41	98-30		518382	Spring	1	
	NT42	98-30		11141888	Piston	1	
	NT43	98-30		11040532	Plug assembly	2	
	QM200	98-30		11121273	Solenoid valve seal kit	1	
	D3	G420	08-22		512411	Gasket/O-ring seal	1
		M200	08-22		11047612	Coil kit, 12 volt	1
		N10	08-22		510547	Control housing	1
N12		08-22		11040532	Plug assembly	8	
N26		08-22		140644	Plug assembly	1	
N160		98-30		085183	Screw, M12 x 35	2	
N180		98-30		914127 (9007314-1213)	Screw, M12 x 60	2	
NT		08-22		11047613	Solenoid valve, 12 volt	1	
NT40		08-22		140644	Plug assembly	1	
NT41		08-22		518382	Spring	1	
NT42		08-22		11141888	Piston	1	
NT43		08-22		11040532	Plug assembly	2	
QM200		08-22		11121272	Solenoid valve seal kit	1	
D7		G36	98-30	03-27	364976	O-ring, 60cc (SB-2002-001)	1
	G36	98-30	03-27	507998	O-ring, 80cc (SB-2002-001)	1	
	G36	98-30	03-27	506754	O-ring, 110cc (SB-2002-001)	1	
	G42	98-30	03-27	754580	O-ring (SB-2002-001)	5	
	G420	03-28		512411	Gasket/O-ring seal (SB-2002-001)	1	
	M200	98-30		519467	Coil kit, 12 volt, Jet connector	1	
	N10	98-30		510547	Control housing	1	
	N12	98-30		11040532	Plug assembly	8	
	N26	98-30		140644	Plug assembly	1	
	N160	98-30		085183	Screw, M12 x 35	2	
	N180	98-30		914127 (9007314-1213)	Screw, M12 x 60	2	
	NT	98-30		519468	Solenoid valve, 12 volt, Jet connector	1	
	NT40	98-30		140644	Plug assembly	1	
	NT41	98-30		518382	Spring	1	
	NT42	98-30		11141888	Piston	1	
	NT43	98-30		11040532	Plug assembly	2	
	QM200	98-30		11121272	Solenoid valve seal kit	1	

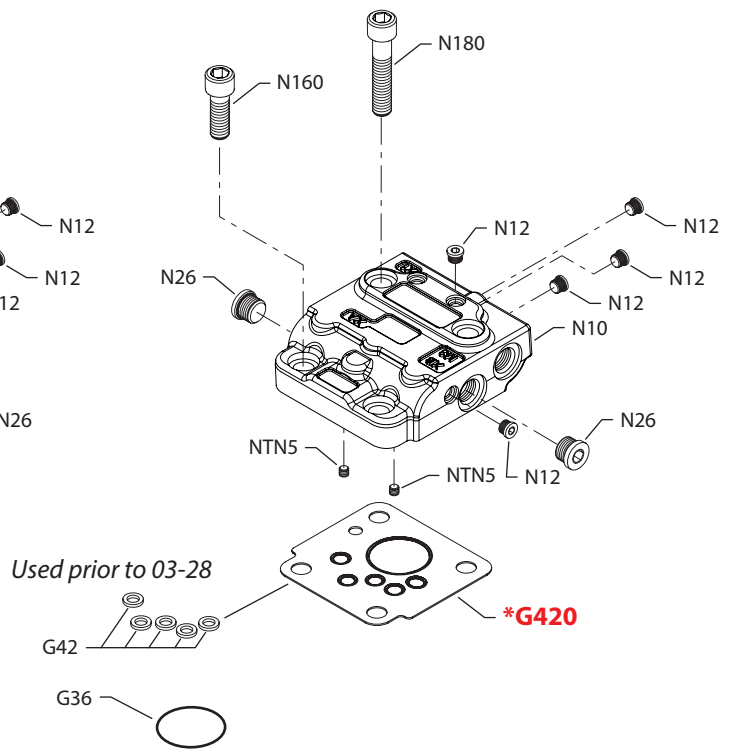


Variable Displacement Motor

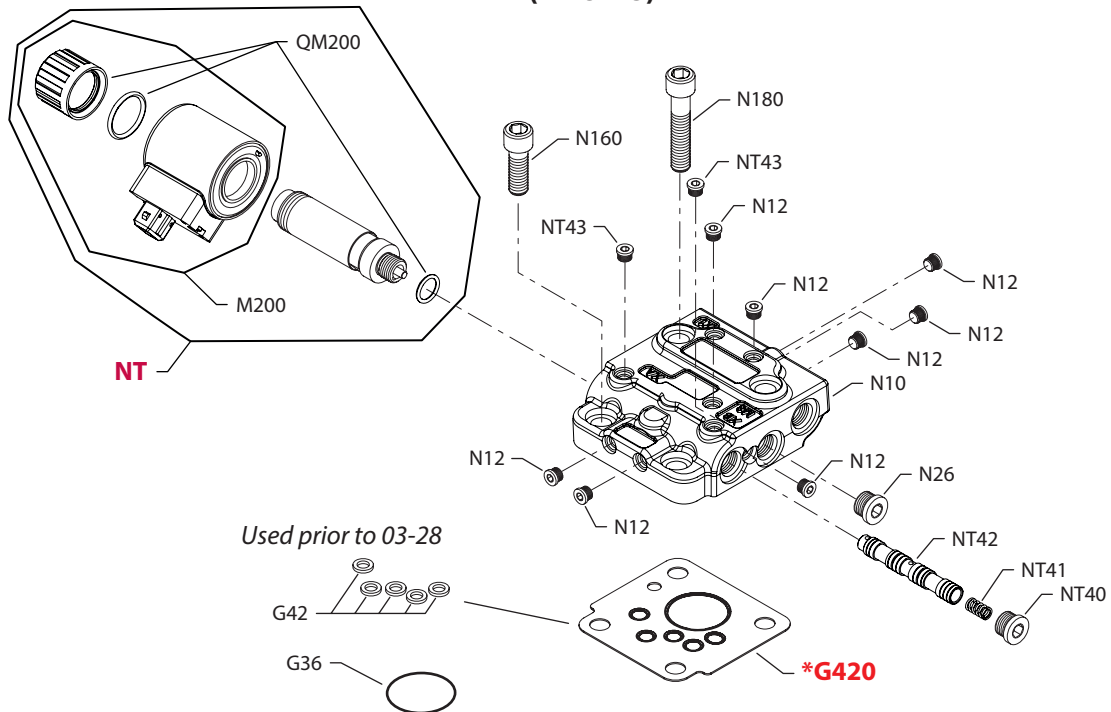
(L5)



(N5)



(P7 & P8)



E100 292E

* = included in base motor seal kit Q210

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

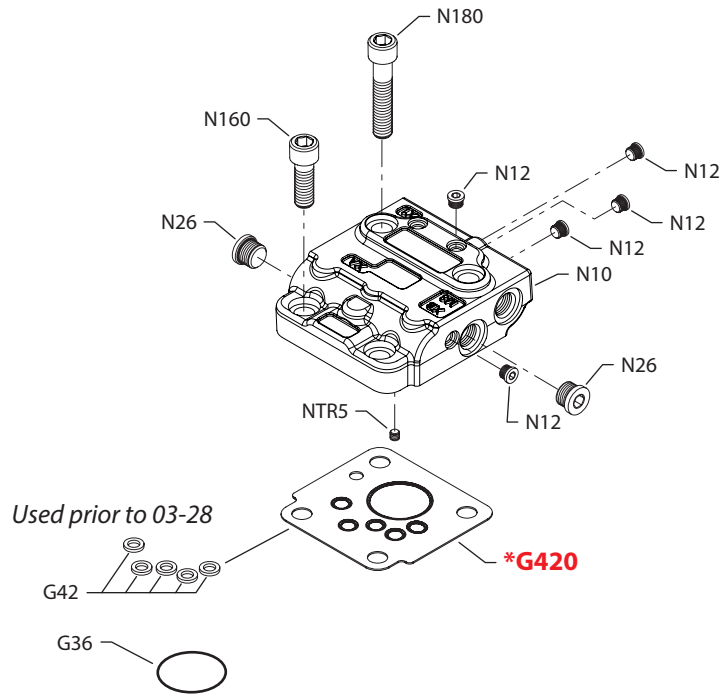

Variable Displacement Motor
Servo pressure supply

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
	G36	98-30	03-27	364976	O-ring, 60cc (SB-2002-001)	1
	G36	98-30	03-27	507998	O-ring, 80cc (SB-2002-001)	1
	G36	98-30	03-27	506754	O-ring, 110cc (SB-2002-001)	1
	G42	98-30	03-27	754580	O-ring (SB-2002-001)	5
L5	G420	03-28		512411	Gasket/O-ring seal (SB-2002-001)	1
	N10	98-30		511208	Control housing	1
	N12	98-30		11040532	Plug assembly	5
	N26	98-30		140644	Plug assembly	2
	N160	98-30		085183	Screw, M12 x 35	2
	N180	98-30		914127 (9007314-1213)	Screw, M12 x 60	2
	NTL5	98-30		913897	Set screw	1
N5	G420	09-02		512411	Gasket/O-ring seal	1
	N10	09-02		511208	Control housing	1
	N12	09-02		11040532	Plug assembly	5
	N26	09-02		140644	Plug assembly	2
	N160	98-30		085183	Screw, M12 x 35	2
	N180	98-30		914127 (9007314-1213)	Screw, M12 x 60	2
	NTN5	09-02		913897	Set screw	2
NN				No parts		
P7	G420	03-28		512411	Gasket/O-ring seal (SB-2002-001)	1
	M200	01-01		519467	Coil kit, 12 volt, Jet connector	1
	N10	01-01		510547	Control housing	1
	N12	01-01		11040532	Plug assembly	8
	N26	01-01		140644	Plug assembly	1
	N160	98-30		085183	Screw, M12 x 35	2
	N180	98-30		914127 (9007314-1213)	Screw, M12 x 60	2
	NT	01-01		519468	Solenoid valve, 12 volt, Jet connector	1
	NT40	01-01		140644	Plug assembly	1
	NT41	01-01		518382	Spring	1
	NT42	01-01		11141888	Piston	1
	NT43	01-01		11040532	Plug assembly	2
	QM200	01-01		11121272	Solenoid valve seal kit	1
P8	G420	03-28		512411	Gasket/O-ring seal (SB-2002-001)	1
	M200	01-01		11003626	Coil kit, 24 volt, Jet connector	1
	N10	01-01		510547	Control housing	1
	N12	01-01		11040532	Plug assembly	8
	N26	01-01		140644	Plug assembly	1
	N160	98-30		085183	Screw, M12 x 35	2
	N180	98-30		914127 (9007314-1213)	Screw, M12 x 60	2
	NT	01-01		11003624	Solenoid valve, 24 volt, Jet connector	1
	NT40	01-01		140644	Plug assembly	1
	NT41	01-01		518382	Spring	1
	NT42	01-01		11141888	Piston	1
	NT43	01-01		11040532	Plug assembly	2
	QM200	01-01		11121272	Solenoid valve seal kit	1

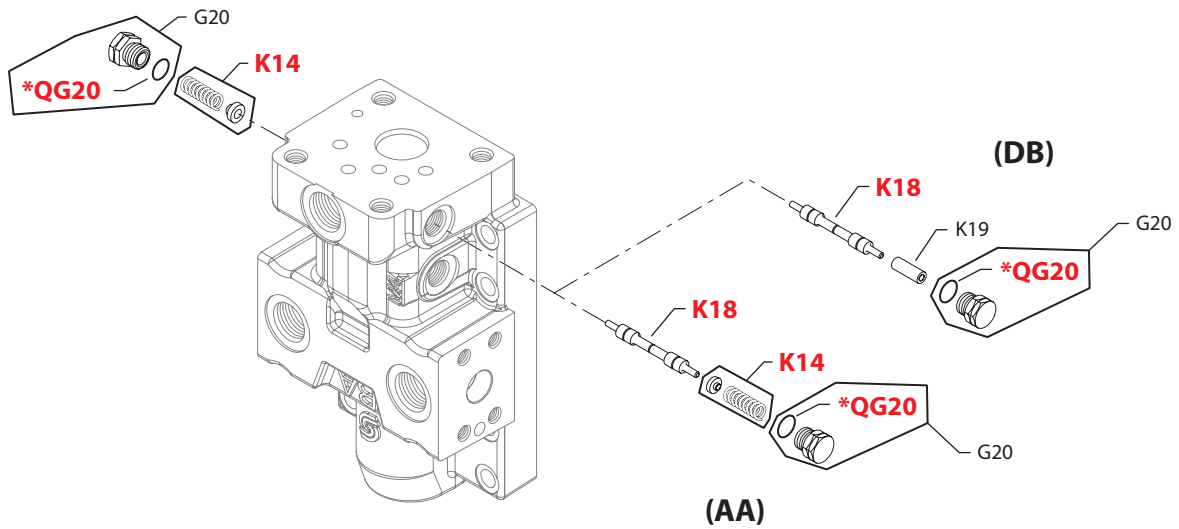


Variable Displacement Motor

(R5)



(AA & DB)



E103 214E

* = included in base motor seal kit Q210

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


Variable Displacement Motor
Servo pressure supply

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
R5	G36	98-30	03-27	364976	O-ring, 60cc (SB-2002-001)	1
	G36	98-30	03-27	507998	O-ring, 80cc (SB-2002-001)	1
	G36	98-30	03-27	506754	O-ring, 110cc (SB-2002-001)	1
	G42	98-30	03-27	754580	O-ring (SB-2002-001)	5
	G420	03-28		512411	Gasket/O-ring seal (SB-2002-001)	1
	N10	09-02		511208	Control housing	1
	N12	98-30		11040532	Plug assembly	5
	N26	98-30		140644	Plug assembly	2
	N160	98-30		085183	Screw	2
	N180	98-30		914127 (9007314-1213)	Screw	2
	NTR5	98-30		913897	Set screw	1

Loop flushing

AA	G20	98-30		518016	Plug assembly	2
	K14	98-30		513596	Spring seat assembly	2
	K18	98-30		365544	Shuttle spool	1
	QG20	98-30		085043 (9004201-3700)	O-ring	2
DB	G20	98-30		518016	Plug assembly	2
	K14	98-30		513596	Spring seat assembly	1
	K18	98-30		365544	Shuttle spool	1
	K19	98-30		11020889	Spacer	1
	QG20	98-30		085043 (9004201-3700)	O-ring	2

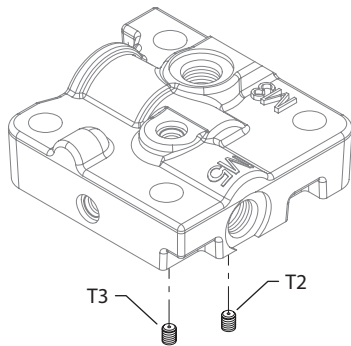
Control ramp

N	No parts				
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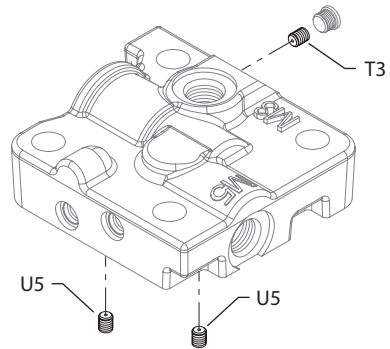


Variable Displacement Motor

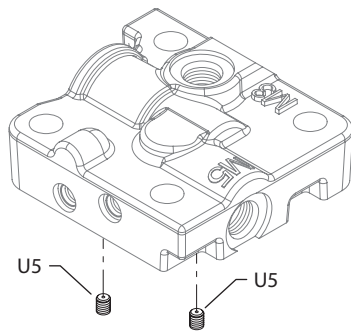
(U1, U2 & U4)



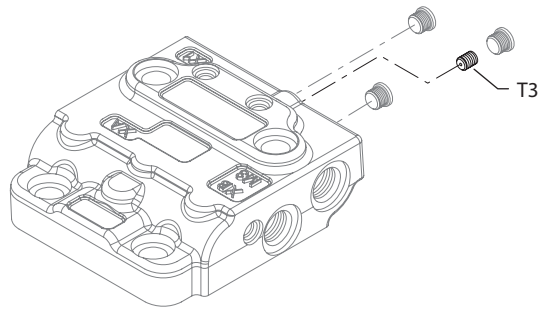
(U3)



(U5)



(X1)

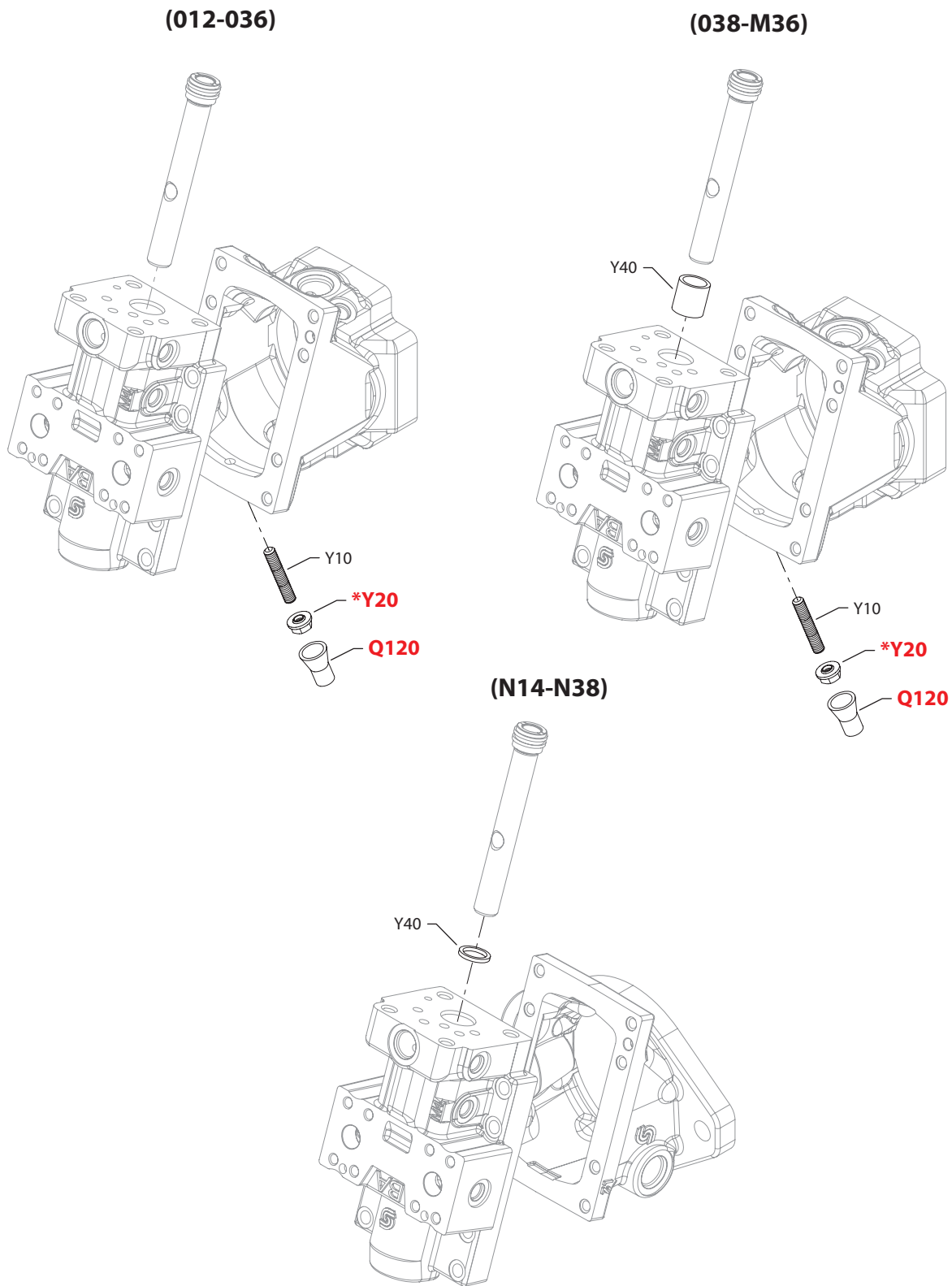



Variable Displacement Motor
Orifice

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
U0				No parts		
U1	T2	98-30		578542	Orifice plug, 0.8, M6 x 8	1
	T3	98-30		578542	Orifice plug, 0.8, M6 x 8	1
U2	T2	98-30		507042	Orifice plug, 1.5, M6 x 8	1
	T3	98-30		507042	Orifice plug, 1.5, M6 x 8	1
U3	T3	98-30		508014	Orifice plug, 1.0, M6 x 8	1
	T5	98-30		511825	Orifice plug, 0.6, M6 x 8	2
U4	T2	98-30		679316	Orifice plug, 0.5, M6 x 8	1
	T3	98-30		679316	Orifice plug, 0.5, M6 x 8	1
U5	U5	98-30		511825	Orifice plug, 0.6, M6 x 8	2
X1	T3	98-30		679316	Orifice plug, 0.5, M6 x 8	1



Variable Displacement Motor



E100 294E

* = included in base motor seal kit Q210

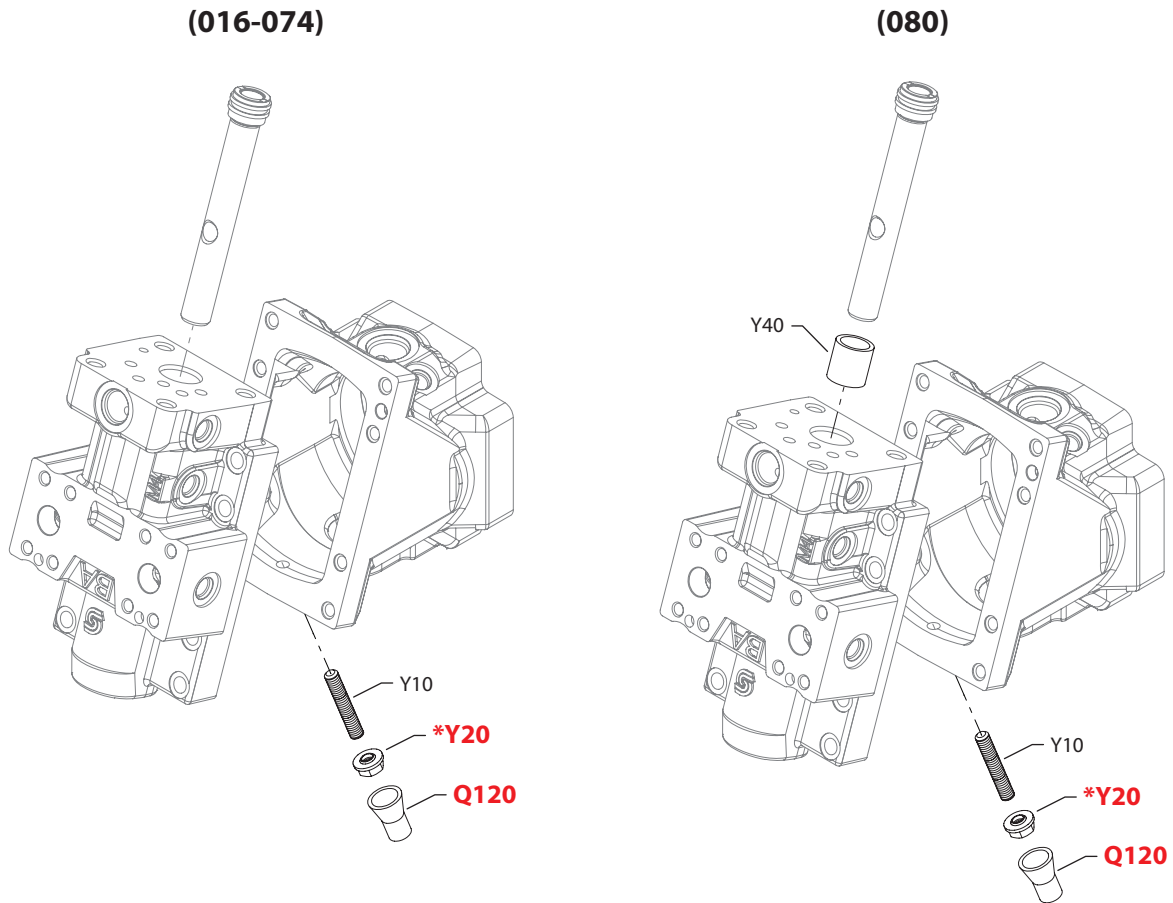
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
51*060-1 minimum displacement

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
012-029	Q120	98-06		770834	Safety cap, green	1
	Y10	98-06		750638	Set screw, M10 x 65	1
	Y20	98-06		042432	Seal nut, M10	1
030-036	Q120	98-06		770834	Safety cap, green	1
	Y10	98-06		749556	Set screw, M10 x 80	1
	Y20	98-06		042432	Seal nut, M10	1
038	Q120	98-06		770834	Safety cap, green	1
	Y10	98-06		041103	Set screw, M10 x 40	1
	Y20	98-06		042432	Seal nut, M10	1
	Y40	98-06		521646	Spacer, 26.5 mm	1
040	Q120	98-06		770834	Safety cap, green	1
	Y10	98-06		041103	Set screw, M10 x 40	1
	Y20	98-06		042432	Seal nut, M10	1
	Y40	98-06		521613	Spacer, 28.5 mm	1
043	Q120	98-06		770834	Safety cap, green	1
	Y10	98-06		041103	Set screw, M10 x 40	1
	Y20	98-06		042432	Seal nut, M10	1
	Y40	98-06		11048012	Spacer, 31.6 mm	1
044	Q120	98-06		770834	Safety cap, green	1
	Y10	98-06		041103	Set screw, M10 x 40	1
	Y20	98-06		042432	Seal nut, M10	1
	Y40	98-06		11047320	Spacer, 32.6 mm	1
M36	Q120	98-06		770834	Safety cap, green	1
	Y10	98-06		041103	Set screw, M10 x 40	1
	Y20	98-06		042432	Seal nut, M10	1
	Y40	98-06		11028509	Spacer, 24.4 mm	1
N14	Y40	98-06		11037656	Spacer, 3.0 mm	1
N16	Y40	98-06		11000384	Spacer, 5.0 mm	1
N20	Y40	98-06		515909	Spacer, 9 mm	1
N25	Y40	98-06		11000385	Spacer, 13.5 mm	1
N38	Y40	98-06		521646	Spacer, 26.5 mm	1



Variable Displacement Motor



E100 215E

* = included in base motor seal kit Q210

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


Variable Displacement Motor
51*080-1 minimum displacement

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
016-035	Q120	98-06		770834	Safety cap	1
	Y10	98-06		750638	Set screw, M10 x 65	1
	Y20	98-06		042432	Seal nut, M10	1
036-054	Q120	98-06		770834	Safety cap	1
	Y10	98-06		749556	Set screw, M10 x 80	1
	Y20	98-06		042432	Seal nut, M10	1

51*110-1 minimum displacement

022-046	Q120	98-06		770842	Safety cap	1
	Y10	98-06		350090	Set screw, M12 x 70	1
	Y20	98-06		076042	Seal nut, M12	1
047-074	Q120	98-06		770842	Safety cap	1
	Y10	98-06		076109	Set screw, M12 x 80	1
	Y20	98-06		076042	Seal nut, M12	1
080	Q120	98-06		770842	Safety cap	1
	Y10	98-06		11106517	Set screw, M12 x 50	1
	Y20	98-06		076042	Seal nut, M12	1
	Y40	98-06		517630	Spacer, 38.2 mm	1

PCOR adjuster

00-AA				No parts		
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Variable Displacement Motor
Overhaul seal kit, S51-1 60 cc

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	Q210	98-06		11122326	Overhaul seal kit, S51-1 60cc	1
	B80C	98-06		726927	O-ring	1
	B80V	98-06		930511	O-ring	1
	F10	98-06		508134	Seal ring	1
	F11	98-06		504207	O-ring	1
	G420	03-08		512411	Gasket/O-ring seal (SB-2002-001)	1
	G60	98-06		515733	End cap gasket	1
	K50	98-06		001149 (9004201-6200)	O-ring	1
	K51	98-06		085043 (9004201-3700)	O-ring	1
	L40	09-46		519021	Lip seal (SB-2009-006)	1
	L40	98-06	09-45	9008000-0114	Lip seal	1
	L50C	98-06		501879	O-ring	1
	L50D	98-06		767962	O-ring	1
	L50V	98-06		917088	O-ring	1
	L82	98-06		501019	Gasket	1
	M223	98-06		085043 (9004201-3700)	O-ring	1
	M224	98-06		732479 (9004105-0100)	O-ring	1
	QG20	98-06		085043 (9004201-3700)	O-ring	2
	QL81	98-06		039297 (9004201-1200)	O-ring	2
	QM180	98-06		039297 (9004201-1200)	O-ring	1
	QNT43	98-06		039297 (9004201-1200)	O-ring	2
	QW30	98-06		085043 (9004201-3700)	O-ring	1
	Y20	98-06		042432	Seal nut, M10	1

Overhaul seal kit, S51-1 80 cc

	Q210	98-06		11122327	Overhaul seal kit, S51-1 80cc	1
	B80C	98-06		502205	O-ring	1
	B80V	98-06		930511	O-ring	1
	F10	98-06		508136	Seal ring	1
	F11	98-06		504208	O-ring	1
	G420	03-08		512411	Gasket/O-ring seal (SB-2002-001)	1
	G60	98-06		517237	End cap gasket	1
	K50	98-06		001149 (9004201-6200)	O-ring	1
	K51	98-06		085043 (9004201-3700)	O-ring	1
	L40	06-23		519021	Lip seal (SB-2009-005)	1
	L40	98-06	06-22	9008000-0114	Lip seal	1
	L50C	98-06		501879	O-ring	1
	L50D	98-06		767962	O-ring	1
	L50V	98-06		767962	O-ring	1
	L85	98-06		11121325	O-ring	1
	L90	98-06		512678	O-ring	1
	M223	98-06		085043 (9004201-3700)	O-ring	1
	M224	98-06		732479 (9004105-0100)	O-ring	1
	QG20	98-06		085043 (9004201-3700)	O-ring	2
	QL81	98-06		039297 (9004201-1200)	O-ring	2
	QM180	98-06		039297 (9004201-1200)	O-ring	1
	QNT43	98-06		039297 (9004201-1200)	O-ring	2
	QW30	98-06		085043 (9004201-3700)	O-ring	1
	Y20	98-06		042432	Seal nut, M10	1


Overhaul seal kit, S51-1 110 cc

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	Q210	98-06		11122328	Overhaul seal kit, S51-1 110cc	1
	B80C	98-06		502206	O-ring	1
	B80V	98-06		729285	O-ring	1
	F10	98-06		648345	Seal ring	1
	F11	98-06		315242	O-ring	1
	G420	03-08		512411	Gasket/O-ring seal (SB-2002-001)	1
	G60	98-06		516124	End cap gasket	1
	K50	98-06		001149 (9004201-6200)	O-ring	1
	K51	98-06		085043 (9004201-3700)	O-ring	1
	L40	05-41		519022	Lip seal (SB-2004-013)	1
	L40	98-06	05-40	341735	Lip seal	1
	L50C	98-06	10-19	507116 (9004104-1580)	O-ring (SB-2009-019)	1
	L50D	98-06		729285	O-ring	1
	L50V	98-06		717462	O-ring	1
	L82	98-06		501113	Gasket	1
	M223	98-06		085043 (9004201-3700)	Gasket	1
	M224	98-06		732479 (9004105-0100)	O-ring	1
	QG20	98-06		085043 (9004201-3700)	O-ring	2
	QL81	98-06		039297 (9004201-1200)	O-ring	2
	QM180	98-06		039297 (9004201-1200)	O-ring	1
	QNT43	98-06		039297 (9004201-1200)	O-ring	2
	QW30	98-06		085043 (9004201-3700)	O-ring	1
	Y20	98-06		076042	Seal nut, M12	1

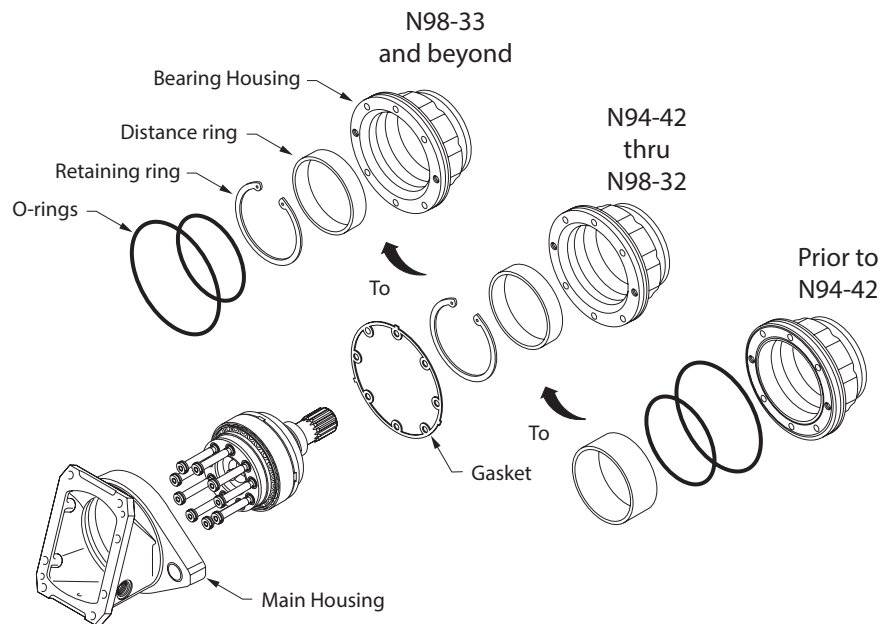


Service Bulletin: SB-1998-086

Products affected Series 51 & 51-1: 80cc cartridge motors

Subject Change from gasket to O-ring sealing at interface between housings.

Description As a joint sealing improvement, Sauer-Danfoss is changing the type of seal between the housings on Series 51 cartridge type motors in the 80cc frame size. With this change, two O-rings are incorporated into the design replacing the gasket. This design is similar, but with different size O-rings to the two O-ring design originally used on the 80cc cartridge motor, prior to the incorporation of the speed sensor option (see SB-1998-035). Both housings have been changed so they are not individually interchangeable with the "gasket" design housings. The "gasket" design housings and gasket part numbers will remain available as service parts.



Models affected All 80cc Series 51 & 51-1 cartridge motors

Serial numbers Change became effective at serial number N-98-33-xxxxx

Part numbers affected

Description	Before N-94-42	N-94-42 thru N-98-32	N-98-33 & beyond
Main housing	734855	505527 w/o PPU	512676 w/o PPU
Main housing		501104 w/PPU	512677 w/PPU
Bearing housing	734632	501109	512679
Retaining ring	N/A	371625	371625
Gasket	N/A	507259	N/A
O-ring	916759	N/A	502205
O-ring	279570	N/A	512678
Distance ring	734913	501117	501117

Parts disposition ■ Non-interchangeable (as individual parts)

Service Bulletin: SB-1999-059

Products affected

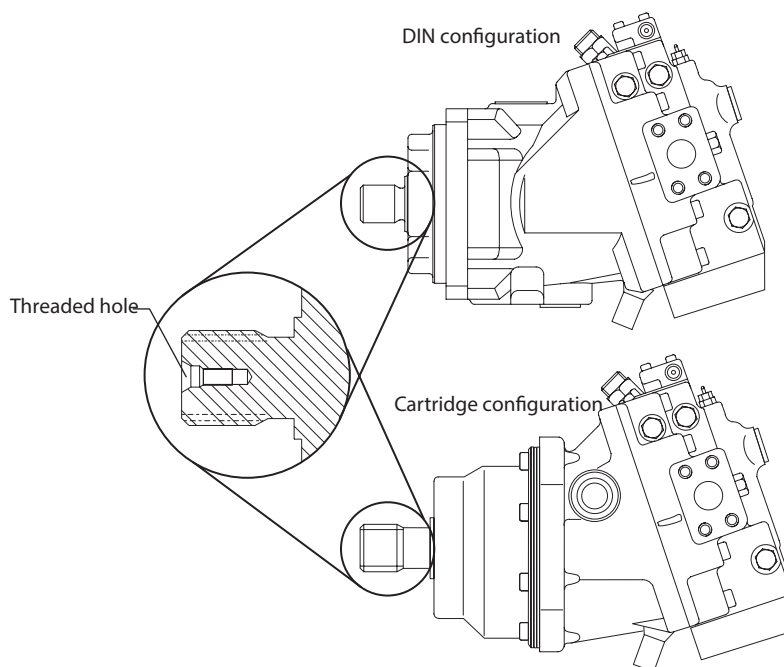
Series 51: 60cc, 80cc, 110cc, and 160cc motors

Subject

Thread change at customer end of DIN shaft assemblies.

Description

As a product improvement, Sauer-Danfoss has changed the threaded hole at the customer end of DIN shaft assemblies to metric threads. Metric shaft assemblies will now have a metric threaded hole. To aid in identifying this change, new shaft assembly part numbers have been released. The new shaft assemblies are interchangeable with the previous shaft assemblies. The previous shaft assembly part numbers will become obsolete.



Models affected

All 60, 80, 110, and 160cc motors (Series 51 and 51-1) with DIN shaft assemblies

Serial numbers

See table below

Part numbers affected

Frame size	Shaft code	Previous p/n	New p/n	Bolt size FROM	Bolt size TO	Effective after serial number
60cc	D1	747931	513034	7/16 - 14	M10 x 1.5	N-99-17-xxxxx
60cc	D2	787622	513033	7/16 - 14	M10 x 1.5	N-99-52-xxxxx
80cc	D2	742213	513037	7/16 - 14	M10 x 1.5	N-99-13-xxxxx
80cc	D3	783399	513035	7/16 - 14	M10 x 1.5	N-99-12-xxxxx
110cc	D3	787663	513039	5/8 - 11	M12 x 1.75	N-99-16-xxxxx
110cc	D4	749192	513038	5/8 - 11	M12 x 1.75	N-99-17-xxxxx
160cc	D4	787689	513041	5/8 - 11	M12 x 1.75	N-99-16-xxxxx
160cc	D5	749226	513040	5/8 - 11	M12 x 1.75	N-99-39-xxxxx

Parts disposition

■ Interchangeable



Service Bulletin: SB-2000-044

Products affected

All Series 51 & 51-1 motors

Subject

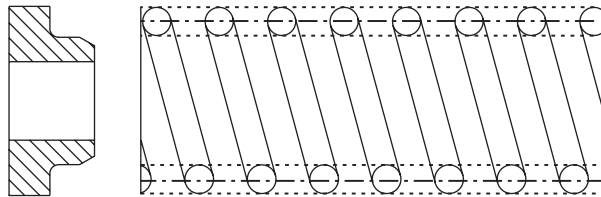
Change to spring and spring seat at ends of loop flushing shuttle spool.

Description

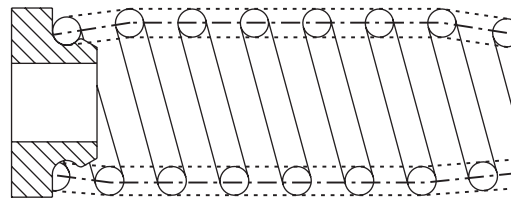
As a product improvement, and to ease assembly, the spring and spring seat at the ends of the loop flushing shuttle spool have been changed. The new spring and spring seat clip together. The old spring and spring seat are interchangeable with the new spring and spring seat as an assembly only.

The old spring seat will become obsolete and no longer available as a service part. The old spring will remain available as a service part.

From:



To:



Models affected

All Series 51 and 51-1 variable motors

Serial numbers

This change became effective at serial number N-00-50-xxxxx

Part numbers affected

From: Spring part number 4350286 and spring seat part number 4800353

To: Spring seat assembly part number 513596

Parts disposition

■ Interchangeable - as an assembly only



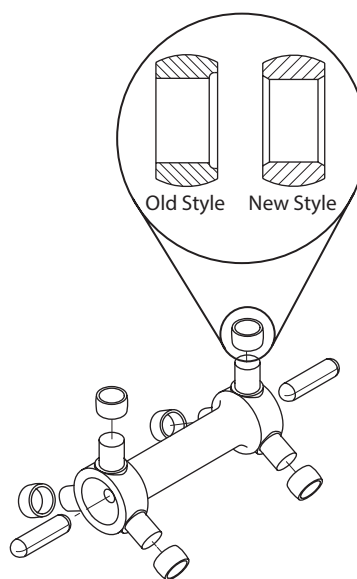
Service Bulletin: SB-2001-015

Products affected All Series 51 & 51-1 motors

Subject Incorporation of symmetrical rollers on the synchronizing shaft

Description As a product improvement and to improve ease of assembly, Sauer-Danfoss has changed the design of the rollers used on the synchronizing shaft in Series 51 and 51-1 motors. The new rollers are symmetrical, in that they can be assembled either direction on the synchronizing shaft. The old rollers were asymmetrical and had to be assembled only one way. The synchronizing shaft has also been changed to accept the symmetrical rollers. The legs for the rollers are now longer in length.

A service kit is available to replace the old design synchronizing shaft and rollers, which are obsolete and no longer available as service parts. The pins at each end of the synchronizing shaft are still the same parts.



Models affected All Series 51 and 51-1 motors

Serial numbers Effective after N-01-39-xxxxx

Part numbers affected

Frame size	Old kit part number	New kit part number
60cc	771675	517308
80cc	771121	517309
110cc	773267	516485
160cc	776823	517310
250cc	776831	517311

Parts disposition

- Interchangeable; as an assembly only
- Use parts in stock



Service Bulletin: SB-2002-001

Products affected

All Series 51 & 51-1 motors

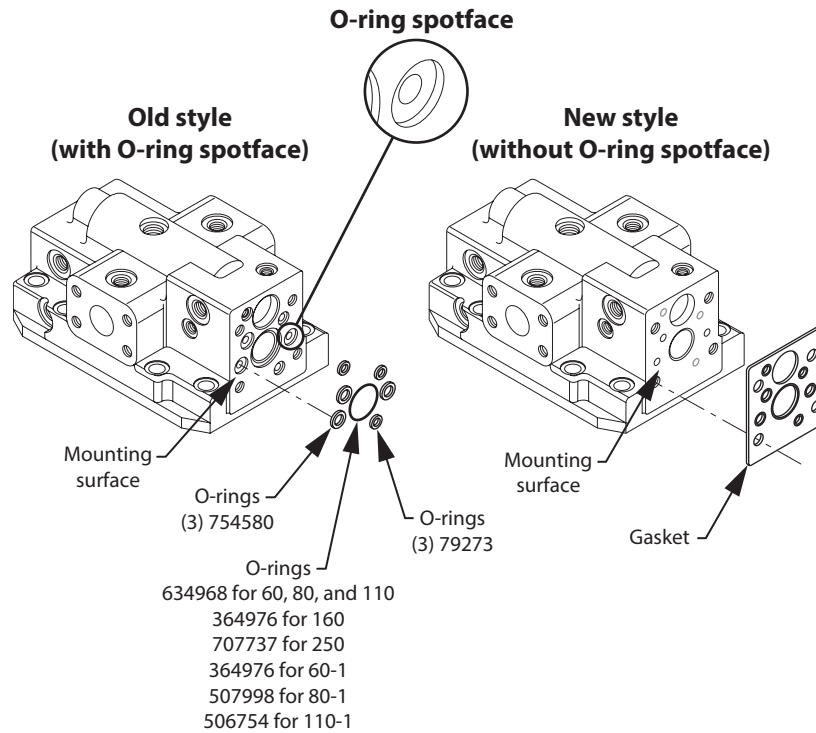
Subject

Sealing change to end cap/control interface

Description

The sealing is improved between the end cap and controls or multi-function blocks on all Series 51 and 51-1 motors. This change replaces individual O-rings with a gasket that incorporates imbedded rubber seal rings. The O-ring spot faces are removed from the end cap mounting face. There is no change to controls' and multi-function blocks' sealing surface.

New end cap part numbers allow better control of this change. Old end cap part numbers are obsolete. You cannot use the new gasket with old end caps and you cannot use the O-rings with new end caps. Control and multi-function block kit now include the O-rings and the new gasket.




Service Bulletin: SB-2002-001

Models affected All Series 51 and 51-1 motors

Serial numbers See table below

Part numbers affected

End cap code	Frame size	Old part number	New part number	Manufacture date code	Gasket part number
R and T	60	504226	516057	N-03-14-xxxxx	511810
A	60	504228	515695	N-03-12-xxxxx	511810
R	60-1	506563	516902	N-03-39-xxxxx	512411
A	60-1	506564	516905	N-03-28-xxxxx	512411
H	60-1	510643	516920	N-03-28-xxxxx	512411
R and T	80	504230	515056	N-03-14-xxxxx	511810
A	80	504232	515696	N-03-27-xxxxx	511810
R	80-1	507976	516903	N-03-39-xxxxx	512411
A	80-1	507977	516907	N-03-39-xxxxx	512411
H	80-1	507978	516921	N-03-39-xxxxx	512411
R and T	110	504235	516058	N-03-14-xxxxx	511810
A	110	504237	513592	N-03-01-xxxxx	511810
R	110-1	506601	516904	N-03-39-xxxxx	512411
A	110-1	506602	515697	N-03-39-xxxxx	512411
H	110-1	510634	516923	N-03-39-xxxxx	512411
R	160	504239	516059	N-03-07-xxxxx	511851
A	160	504242	513543	N-03-01-xxxxx	511851
R	250	504244	516060	N-03-07-xxxxx	511851
A	250	504246	513544	N-03-08-xxxxx	511851

Parts disposition

- Non-interchangeable;
- Order replacement parts

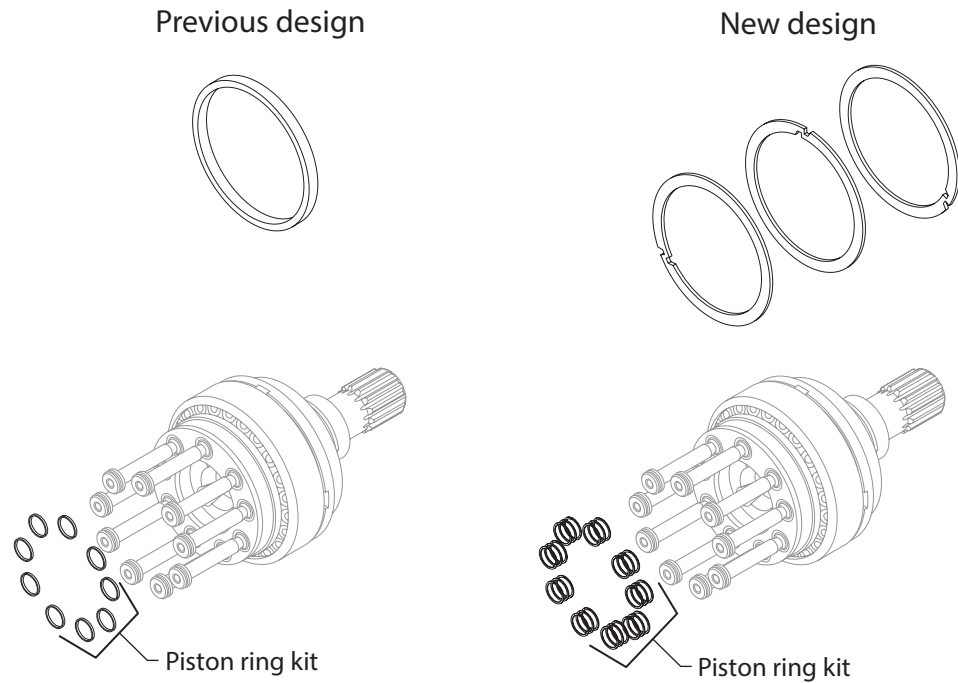


Service Bulletin: SB-2003-007

Products affected Series 51 and 51-1: 80cc, motors

Subject Piston ring

Description The piston ring design has changed in all Series 51 - 80 cc motor shaft assemblies. There are now three thin rings in the piston ring groove. The piston ring groove has also changed to accommodate the new rings. The piston ring groove is now slightly narrower and deeper. The old rings will not fit into the new pistons and the new rings will not fit into the old pistons. The old piston ring kits will remain available for service parts.



Models affected All Series 51 and 51-1, 80 cc motors

Serial numbers This change became effective with serial number N-03-47-xxxxx

Part numbers affected New piston ring kit p/n 516275
Old piston ring kit p/n 771162
The shaft assembly part numbers remain the same.

Parts disposition ■ Non-interchangeable;

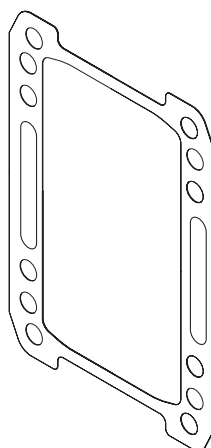


Service Bulletin: SB-2004-004

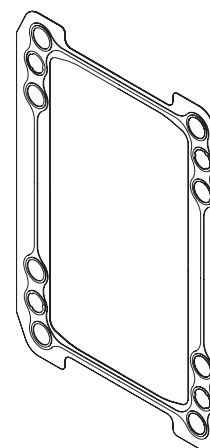
Products affected All Series 51 and 51-1 motors

Subject End cap change

Description Sauer-Danfoss has made a quality improvement change to the gasket sealing the end cap and housing joint. The gasket changed from paper to a rubber coated metal gasket with a raised bead to aid sealing properties. The new gasket is interchangeable with the old gasket. The old gasket will become obsolete and no longer available for service.



Old gasket



New gasket

Models affected Series 51 and 51-1 motors, all sizes (60, 80, 110, 160, and 250 cc)

Serial numbers This change became effective at series numbers:

- N-05-48-xxxxx = 60 cc
- N-04-19-xxxxx = 80 cc
- N-05-48-xxxxx = 110 cc
- N-04-21-xxxxx = 160 cc
- N-04-36-xxxxx = 250 cc

Part numbers affected

Frame size	Old part number	New part number
60 cc	501198	515733
80 cc	501199	517237
110 cc	501200	516124
160 cc	501201	519806
250 cc	501202	515735

Parts disposition

- Interchangeable;
- Revise exiting part orders



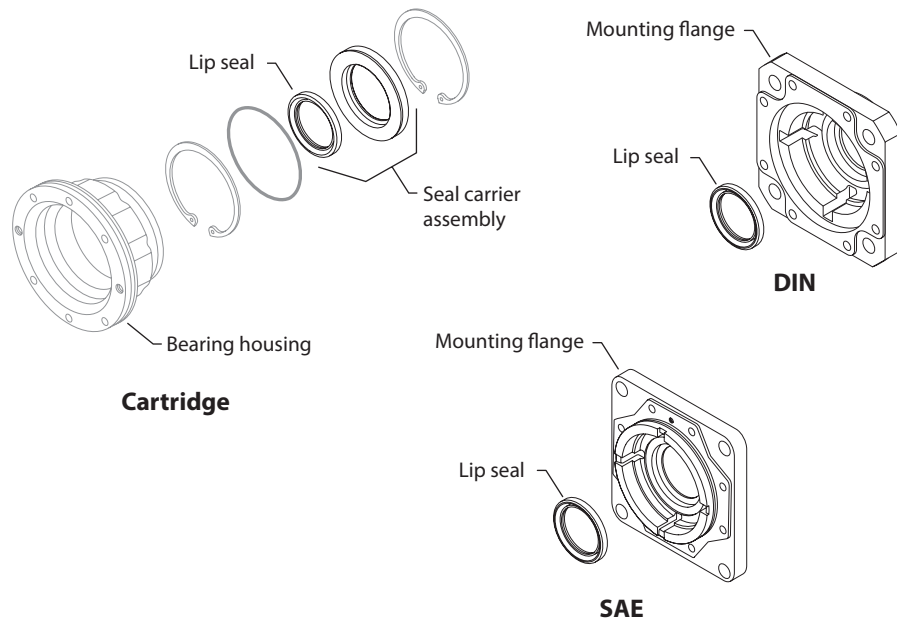
Service Bulletin: SB-2004-013

Products affected Series 51; 110, 160 & 250 cc motors and 51-1; 110 cc motors

Subject New shaft lip seal

Description As a product improvement, Sauer-Danfoss is changing the shaft lip seal in the series 51; 110, 160, & 250 cc motors and in the series 51-1; 110 cc motors. The new seal requires a change to the mounting flange seal bore in SAE & DIN flange options, and the seal carrier used in cartridge motors. The seal carrier assembly part number does not change and is interchangeable with previously built cartridge motors.

The old mounting flange and seal carrier will become obsolete and no longer available. The old lip seal will remain available for service.



Models affected All series 51 -110, 160, and 250 cc motors and 51-1 -110 cc motors.

Serial numbers This change became effective at serial number: N-05-45-xxxxx

Part numbers affected

Frame size	Old flange	New flange	Old seal	New seal
51D110 (DIN)	774737	520316	341735	519022
51V110 (SAE)	366534	520319	341735	519022
51D160 (DIN)	510543	520317	341735	519022
51D160 (SAE)	356261	519417	341735	519022
51V250 (SAE)	511051	519418	341735	519022

Parts disposition

- Non-interchangeable
- Use parts in stock
- Order replacement parts
- Revise existing part orders



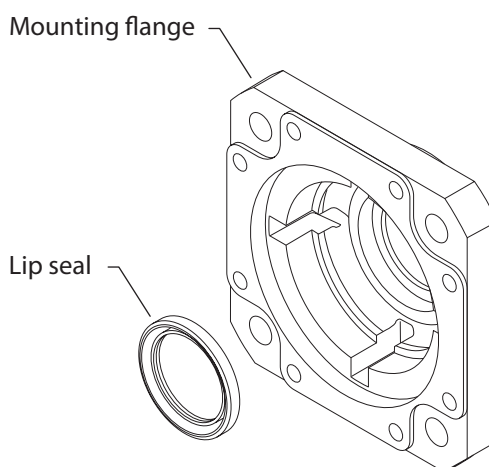
Service Bulletin: SB-2005-012

Products affected Series 51 & 51-1 60 and 80cc motors (SAE & DIN flange only)

Subject Shaft seal change

Description Sauer-Danfoss is continuing to globalize its entire product line. The change to a new shaft seal in the series 51 and 51-1; 60 and 80 cc motors with SAE or DIN mounting flange is part of this effort. The new seal is not interchangeable with the old seal. The new seal has a smaller diameter (60 mm instead of

63.5 mm). The mounting flange has also changed to accept the new seal. The old flanges will become obsolete and no longer available for service. The old seal will remain available for service.



Models affected All series 51 and 51-1; 60 and 80 cc motors with SAE or DIN mounting flange

Serial numbers This change became effective at serial number N-06-13-xxxxx.

Part numbers affected

Old part number	New part number	Description
673525 / 9008000-0114	519021	Seal
763540	520318	Flange, 60cc, SAE
754895 / 521619	519195	Flange, 80cc, SAE
764076 / 521618	11000888	Flange, 80cc, SAE
775973	520314	Flange, 60cc, DIN
776039	520315	Flange, 80cc, DIN

Parts disposition

- Non-interchangeable;
- Order replacement parts

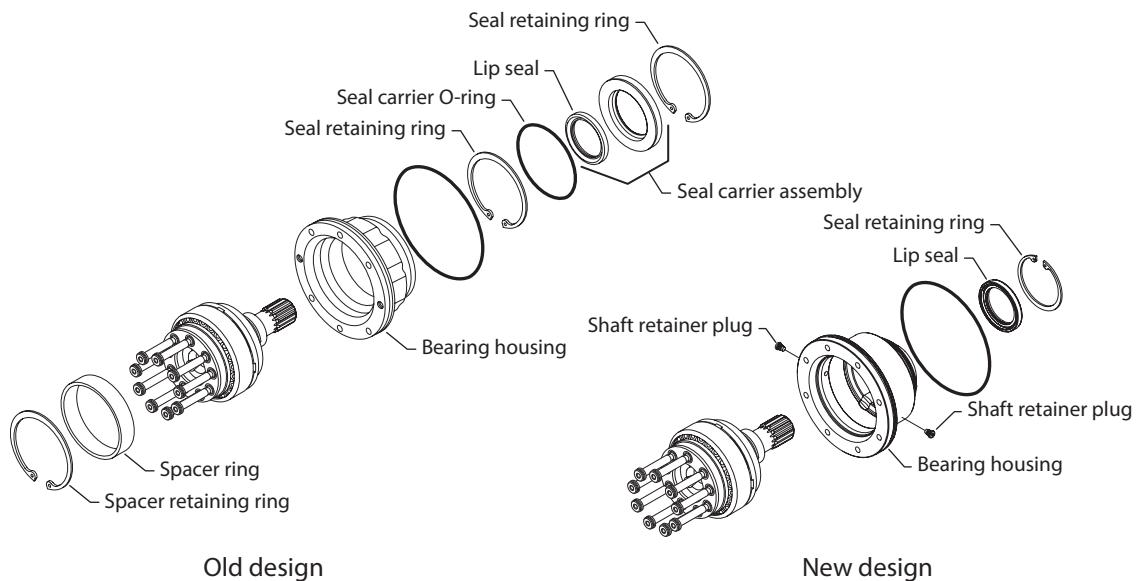


Service Bulletin: SB-2009-005

Products affected Series 51 & 51-1 80 cc cartridge motors

Subject Redesign of bearing housing

Description In an effort to communize the assembly of bent axis motors, the cartridge bearing housing for the series 51 and 51-1 motors has been changed. The new design uses two special plugs to retain the shaft assembly in the housing rather than a spacer ring and retaining ring. The shaft seal hardware has also changed. The new seal design has the lip seal pressed directly into the housing and held in place with a single retaining ring. The old seal design had an O-ring on a seal carrier assembly with two retaining rings holding the seal carrier in place. The lip seal does not change. The new housing will have improved clearances for use in different planetary gearboxes. The old and new housings are not interchangeable. The old housing, spacer ring, spacer retaining ring, seal carrier assembly and retaining rings that held the seal carrier in place will remain available for service..



Models affected All series 51 and 51-1 80cc Cartridge motors.

Serial numbers This change became effective at serial number N09-51-XXXXX. (14 Dec 2009)

Part numbers affected

Description	Old part number	Replacement part number
Bearing housing	11009204	11038245
Spacer retaining ring	501120	11056747 (retainer plugs)(2)
Seal carrier assembly	510482	No longer used
Lip seal	519021	No Change
Seal retaining ring	392456 (2)	915280 (1)
Spacer ring	501116	No longer used
Seal carrier O-ring	501879	No longer used

- Parts disposition**
- Non-interchangeable
 - Use parts in stock for repair of units built before serial number N09-46-xxxxx
 - Order replacement parts
 - Revise existing part orders

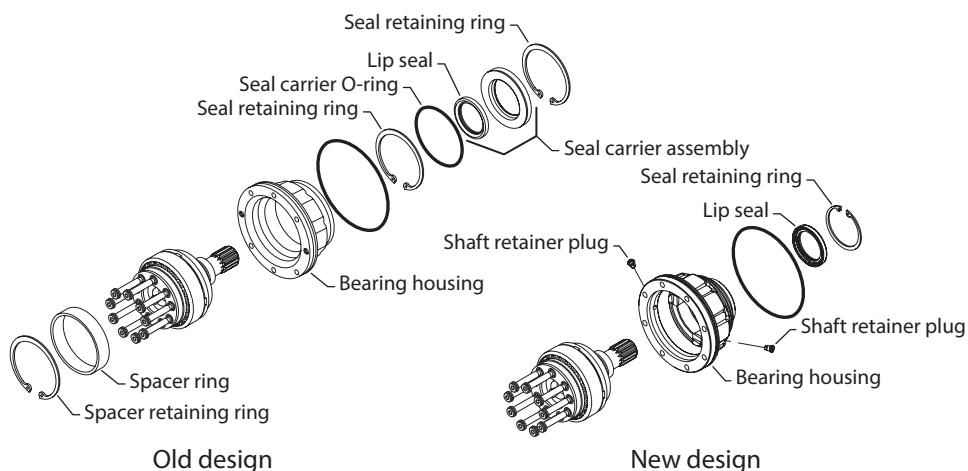


Service Bulletin: SB-2009-006

Products affected Series 51 & 51-1 60 cc cartridge motors

Subject Redesign of bearing housing

Description In an effort to communize the assembly of bent axis motors, the cartridge bearing housing for the series 51 and 51-1 motors has been changed. The new design uses two special plugs to retain the shaft assembly in the housing rather than a spacer ring and retaining ring. The shaft seal hardware has also changed. The new seal design has the lip seal pressed directly into the housing and held in place with a single retaining ring. The old seal design had an O-ring on a seal carrier assembly with two retaining rings holding the seal carrier in place. The lip seal does not change. The new housing will have improved clearances for use in different planetary gearboxes. The old and new housings are not interchangeable. The old housing, spacer ring, spacer retaining ring, seal carrier assembly and retaining rings that held the seal carrier in place will remain available for service.



Models affected All series 51 and 51-1 60cc Cartridge motors.

Serial numbers This change became effective at serial number N09-46-XXXXX. (6 Nov 2009)

Part numbers affected

Description	Old part number	Replacement part number
Bearing housing	11009204	11038245
Spacer retaining ring	501120	11056747 (retainer plugs)(2)
Seal carrier assembly	510482	No longer used
Lip seal	519021	No Change
Seal retaining ring	392456 (2)	915280 (1)
Spacer ring	501116	No longer used
Seal carrier O-ring	501879	No longer used

Parts disposition

- Non-interchangeable
- Use parts in stock for repair of units built before serial number N09-46-xxxxx
- Order replacement parts
- Revise existing part orders

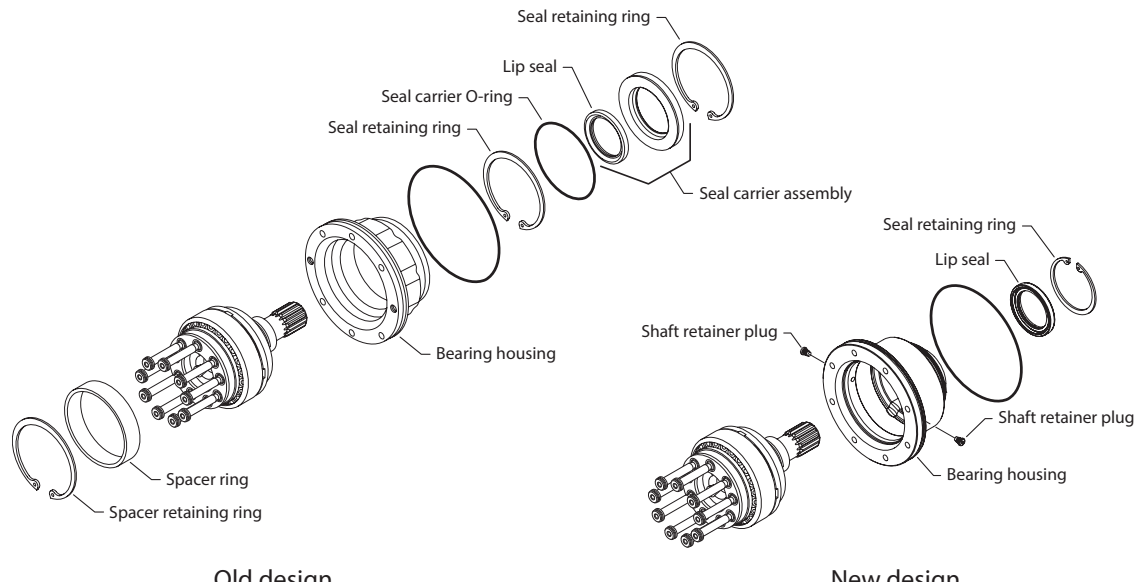


Service Bulletin: SB-2009-019

Products affected Series 51 & 51-1 110 cc cartridge motors

Subject Redesign of bearing housing

Description In an effort to commonize the assembly of bent axis motors, the cartridge bearing housing for the series 51 and 51-1 motors has been changed. The new design uses two special plugs to retain the shaft assembly in the housing rather than a spacer ring and retaining ring. The shaft seal hardware has also changed. The new seal design has the lip seal pressed directly into the housing and held in place with a single retaining ring. The old seal design had an O-ring on a seal carrier assembly with two retaining rings holding the seal carrier in place. The lip seal does not change. The new housing will have improved clearances for use in different planetary gearboxes. The old and new housings are not interchangeable. The old housing, spacer ring, spacer retaining ring, seal carrier assembly and retaining rings that held the seal carrier in place will remain available for service.



Models affected All series 51 and 51-1 110cc Cartridge motors.

Serial numbers This change became effective at serial number N10-20-XXXXX. (17 May 2010)

Part numbers affected

Description	Old part number	Replacement part number
Bearing housing	11009383	11038814
Spacer retaining ring	504732	11056747 (retainer plugs)(2)
Seal carrier assembly	510484	No longer used
Lip seal	519022	No Change
Seal retaining ring	739037 (2)	392423 (1)
Spacer ring	501118	No longer used
Seal carrier O-ring	507116	No longer used

- Parts disposition**
- Non-interchangeable
 - Use parts in stock for repair of units built before serial number N10-20-xxxxx
 - Order replacement parts
 - Revise existing part orders



Notes



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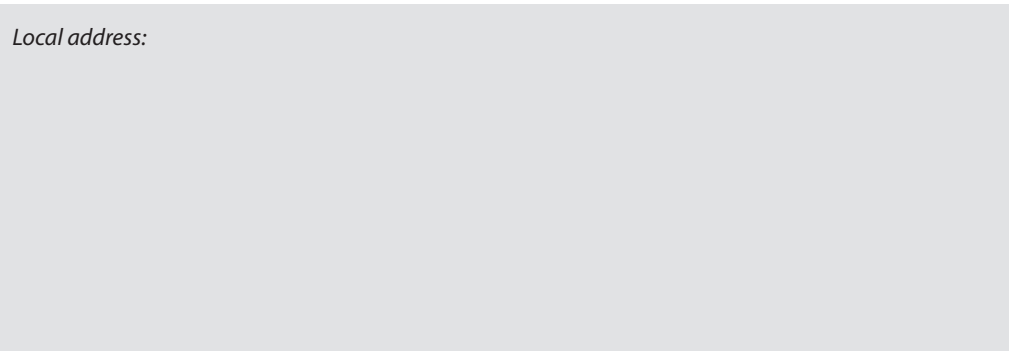
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