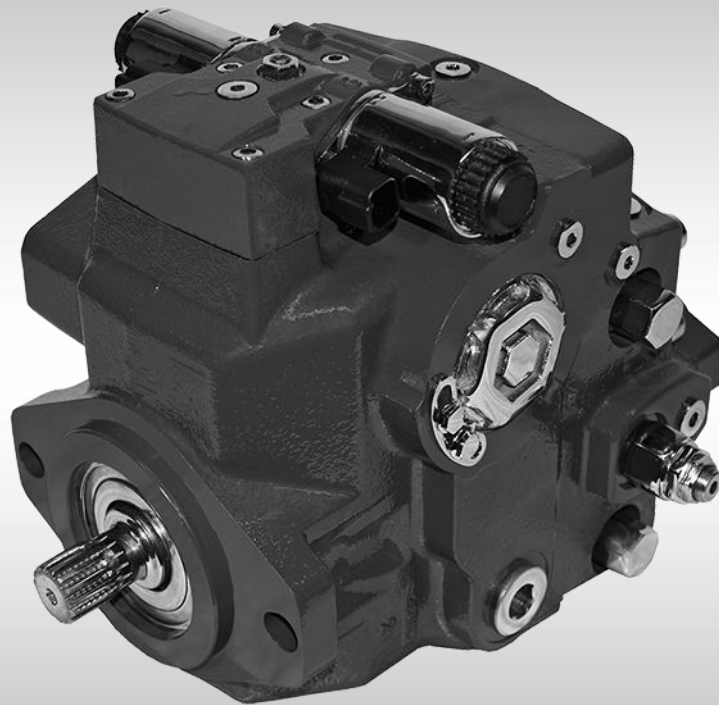




**Conversion Manual**  
**Closed Circuit Axial Piston Pumps**  
**H1 45/53 cc**



**Revision history***Table of revisions*

<b>Date</b>	<b>Changed</b>	<b>Rev</b>
April 2015	First edition	AA

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**Variable displacement pump**

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## General Information

### Base model description

The H1 pumps base model program is intended to help our partners reduce inventory, reduce lead time, and increase customer service. The 45/53 frame size offers eight standard base models. Each model offers a unique set of options that can be tailored to the customer's need. This conversion manual provides the associated parts and kits that can be used to convert the base models to a customized hydraulic solution.

### Additional information and tools

Danfoss H1P 045/053 Base Model Conversion Tool	—
H1P 045/053 Technical Information	<a href="#">11063344</a>
H1P 045/053 Data Sheet	<a href="#">11022996</a>
H1P 045/053 Service Manual	<a href="#">520L0958</a>
H1P 045/053 Parts Manual	<a href="#">11029322</a>
H1P 045/053/060/068 Repair Instructions	520L0957

### 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 H1, 45 and 53 cc variable displacement pumps.

The parts listed include all parts which may be used when performing either “Minor Repairs”, “Major Repairs” or “Conversions” on the H1, 45 and 53 cc pump.

### 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.

**General Information**
**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). "A" indicates the unit was originally assembled in Ames, Iowa, USA.

The first number (2 digits) indicates the year of manufacture. ("06" would indicate the unit was manufactured in 2006).

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.

**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 G30

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
80	G30	89-17		8000243	End cap gasket	1
	G30	87-02	89-16	8000151	End cap gasket (SB-1995-006)	1

**Service bulletins**

All units using this order code with a date code of 87-02 and up to and including 89-16, must use part number "8000151". All units with a date code of 89-17 and newer must use part number "8000243".

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 H1 units results in a simplified service parts list and part number identification procedure.

The same item numbers are used for same part names on all units within a product type. (Example: The lip seal - Item J250 has the same item number on all pumps.)

A part number that has another number following it in parentheses is done to make this a worldwide manual. The first number is sold in Germany. The number in parentheses is sold in the United States. (Example: 314583 (9008000-0118), customers would order 9008000-0118 if ordering the part in the United States.)

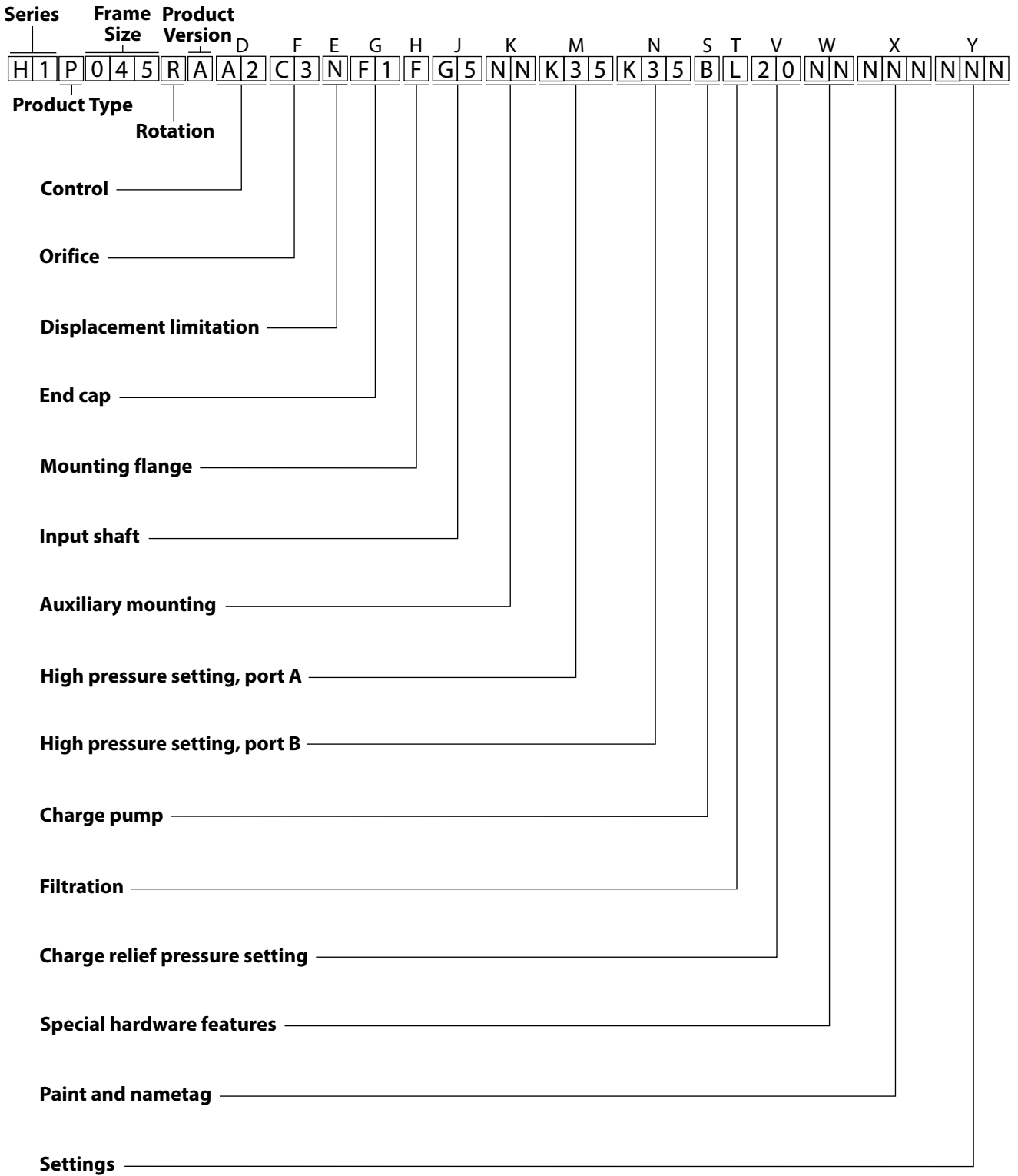
**General Information****Part Identification**

The nameplate on an H1 pump has an Order Code of H1P045RA A2 C3 N F1 F G5 NN K35 K35 B L 20 NN NNN NNN. Use the following procedures to determine the part number of the drive shaft used on this pump.

1. Referring to the input shaft module in the Order Code, the input shaft option for this pump is identified by the code "G5". (H1P045RA A2 C3 N F1 F G5NN K35 K35 B L 20 NNNNN NNN)
2. Referring to the Service Parts List, find the shaft group. Next find the order code that relates to this unit, which is "G5". The shaft is found to be item J100 and part number 140667.

General Information

Order code



**General Information**
*Displacement*

<b>045</b>	45 cm <sup>3</sup> [2.75 in <sup>3</sup> ]
<b>053</b>	53.8 cm <sup>3</sup> [3.28 in <sup>3</sup> ]

*A – Rotation*

<b>L</b>	Left hand (counter clockwise)
<b>R</b>	Right hand (clockwise)

*B – Product version*

<b>A</b>	Revision code
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*D – Control*

<b>A2</b>	Electric Displacement Control ( <b>EDC</b> ) 12V, DEUTSCH connector
<b>A3</b>	Electric Displacement Control ( <b>EDC</b> ) 24V, DEUTSCH connector
<b>A4</b>	Electric Displacement Control ( <b>EDC</b> ) 12V, DEUTSCH connector, Manual override
<b>A5</b>	Electric Displacement Control ( <b>EDC</b> ) 24V, DEUTSCH connector, Manual override
<b>A9</b>	Forward-Neutral-Reverse ( <b>FNR</b> ) 12V, DEUTSCH connector, Manual override
<b>B1</b>	Forward-Neutral-Reverse ( <b>FNR</b> ) 24V, DEUTSCH connector, Manual override
<b>E7</b>	Electric Displacement Control ( <b>EDC</b> ) 12V, with keyed CCO
<b>E8</b>	Electric Displacement Control ( <b>EDC</b> ) 24V, with keyed CCO
<b>M1</b>	Manual Displacement Control ( <b>MDC</b> ) <sup>*</sup>
<b>M2</b>	Manual Displacement Control ( <b>MDC</b> ) with Neutral Start Switch, DEUTSCH Connector <sup>*</sup>
<b>M3</b>	Manual Displacement Control ( <b>MDC</b> ) with 12V CCO, DEUTSCH Connector <sup>*</sup>
<b>M4</b>	Manual Displacement Control ( <b>MDC</b> ) with 24V CCO, DEUTSCH Connector <sup>*</sup>
<b>M5</b>	Manual Displacement Control ( <b>MDC</b> ) with 12V CCO and Neutral Start Switch, DEUTSCH Connector <sup>*</sup>
<b>M6</b>	Manual Displacement Control ( <b>MDC</b> ) with 24V CCO and Neutral Start Switch, DEUTSCH Connector <sup>*</sup>

<sup>\*</sup> Align with option: **F**: Orifices.

*F – Orifices (mm)*

<b>Code</b>	<b>Tank (A+B)</b>	<b>P</b>	<b>A / B</b>	<b>Note</b>
<b>C1</b>	–	–	0.8	
<b>C2</b>	–	–	1.3	
<b>C3</b>	–	–	–	No orifice. Not recommended for mobile applications.



**General Information**
*F – Orifices (mm) (continued)*

Code	Tank (A+B)	P	A / B	Note
C6	1	–	–	To be used with <b>MDC</b> controls <u>only</u> .
C7	1.3	–	–	
C8	0.6	0.8	–	
C9	0.6	1	–	
D1	0.8	1	–	
D2	0.8	1.3	–	
D3	1	1.3	–	
D4	1	1.3	1.3	
D5	0.6	0.6	0.8	

*E – Displacement limiter*

<b>N</b>	None
<b>B</b>	Adjustable externally

*G – Endcap options (Twin port)*

<b>E5</b>	Remote or external charge endcap with 11 926 O-ring ports
<b>D8</b>	Remote or external charge endcap with ISO 6162 split flange ports

*H – Mounting*

<b>F</b>	ISO 3019-1, flange 101-2 (SAE B)
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*J – Input shaft*

<b>G1</b>	ISO 3019-1, outer Ø32 mm - 4 (SAE C, 14 teeth splined shaft 12/24 pitch)
<b>G4</b>	ISO 3019-1, outer Ø22 mm - 4 (SAE B, 13 teeth splined shaft 16/32 pitch)
<b>G5</b>	ISO 3019-1, outer Ø25 mm - 4 (SAE B, 15 teeth splined shaft 16/32 pitch)
<b>F2</b>	Conical keyed shaft end similar to ISO 3019-1 code 25-3, taper 1:8 (key not supplied with pump)

*K – Auxiliary mounting pad ISO 3019-1 (Align with option G: Endcap selection)*

<b>NN</b>	None	Shipping cover
<b>H2</b>	Flange 82 - 2, outer Ø16 mm - 4 (SAE A, 9 teeth 16/32 coupling)	
<b>H1</b>	Flange 82 - 2, outer Ø19 mm - 4 (SAE A, 11 teeth 16/32 coupling)	
<b>H3</b>	Flange 101 - 2, outer Ø22 mm - 4 (SAE B, 13 teeth 16/32 coupling)	
<b>H5</b>	Flange 101 - 2, outer Ø25 mm - 4 (SAE B-B, 15 teeth 16/32 coupling)	

*M – Overpressure protection type, side “A” / N – Overpressure protection type, side “B”*

High pressure relief valve with bypass, pressure protection type must be the same for side “A” and “B”		
L	PL setting <sup>#</sup>	HPRV setting
<b>L18</b>	180 bar [2610 psi]	250 bar [3630 psi]
<b>L20</b>	200 bar [2900 psi]	250 bar [3630 psi]

**General Information**

*M – Overpressure protection type, side “A” / N – Overpressure protection type, side “B” (continued)*

<b>High pressure relief valve with bypass, pressure protection type must be the same for side “A” and “B”</b>		
<b>L</b>	<b>PL setting<sup>#</sup></b>	<b>HPRV setting</b>
<b>L23</b>	230 bar [3336 psi]	280 bar [4061 psi]
<b>L25</b>	250 bar [3630 psi]	300 bar [4350 psi]
<b>L28</b>	280 bar [4061 psi]	330 bar [4786 psi]
<b>L30</b>	300 bar [4350 psi]	350 bar [5080 psi]
<b>L33</b>	330 bar [4786 psi]	380 bar [5510 psi]
<b>L35</b>	350 bar [5080 psi]	400 bar [5800 psi]
<b>L38</b>	380 bar [5510 psi]	420 bar [6090 psi]
<b>L40</b>	400 bar [5800 psi] (45 cm <sup>3</sup> only)	450 bar [6526 psi] (45 cm <sup>3</sup> only)
<b>L42</b>	420 bar [6090 psi] (45 cm <sup>3</sup> only)	450 bar [6526 psi] (45 cm <sup>3</sup> only)

<sup>#</sup> Please contact Danfoss Power Solutions for pressures not shown or for applied pressure above max. working pressure.

*M – Overpressure protection type, side “A” / N – Overpressure protection type, side “B”*

<b>High pressure relief valve with bypass, pressure protection type must be the same for side “A” and “B”</b>	
<b>K *</b>	<b>Pressure setting<sup>#</sup></b>
<b>K18</b>	180 bar [2610 psi]
<b>K20</b>	200 bar [2900 psi]
<b>K23</b>	230 bar [3336 psi]
<b>K25</b>	250 bar [3630 psi]
<b>K28</b>	280 bar [4061 psi]
<b>K30</b>	300 bar [4350 psi]
<b>K33</b>	330 bar [4786 psi]
<b>K35</b>	350 bar [5080 psi]
<b>K38</b>	380 bar [5510 psi]
<b>K40</b>	400 bar [5800 psi] (45 cm <sup>3</sup> only)
<b>K42</b>	420 bar [6090 psi] (45 cm <sup>3</sup> only)

\* Without pressure limiters

<sup>#</sup> Please contact Danfoss Power Solutions for pressures not shown or for applied pressure above max. working pressure.

*S – Charge pump*

<b>B</b>	12 cm <sup>3</sup> /rev [0.73 in <sup>3</sup> /rev]
<b>N</b>	No charge pump, external charge supply*

\* Align with option: **T**

*T – Filtration (Align with option G: Endcap selection)*

<b>P</b>	Remote full charge flow filtration
<b>E</b>	External charge flow filtration

**General Information**
*V – Charge pressure relief setting*

<b>18</b>	18 bar [261 psi]
<b>20</b>	20 bar [290 psi]
<b>22</b>	22 bar [319 psi]
<b>24</b>	24 bar [348 psi]
<b>26</b>	26 bar [377 psi]
<b>28</b>	28 bar [406 psi]
<b>32</b>	32 bar [464 psi]

*W – Special hardware features*

<b>PN</b>	EDC/FNR/MDC valve plate
<b>P4</b>	EDC valve plate with speed ring on the the cylinder block
<b>H1</b>	MDC valve plate with MDC handle

*X – Paint and nametag*

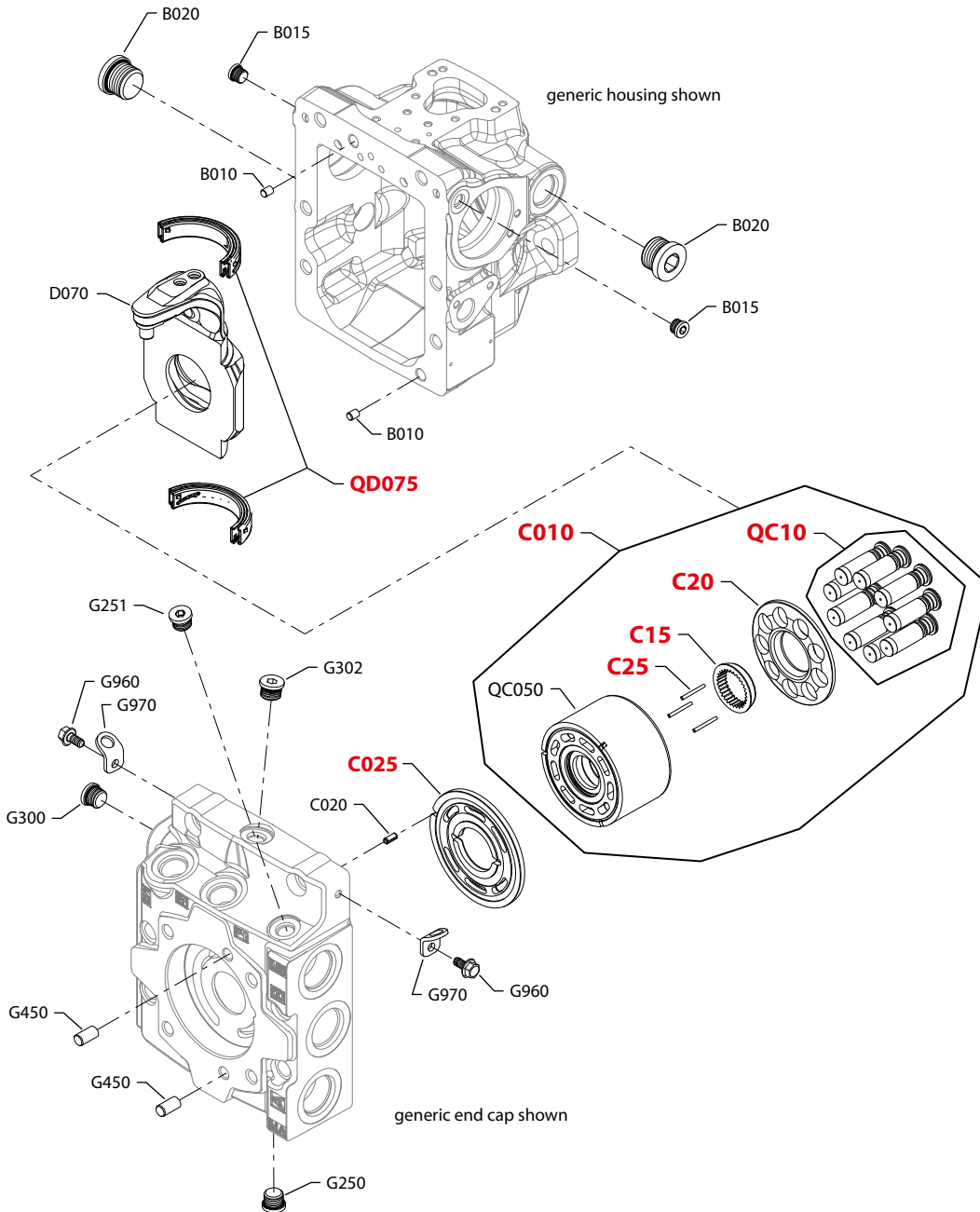
<b>C08</b>	No paint and Danfoss nametag
<b>NNN</b>	Black paint and Danfoss nametag

*Y – Special settings*

<b>Code</b>	<b>Description</b>
<b>NNN</b>	None

Variable displacement pump

Common parts



E100 939E

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

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**Conversion Manual      Axial Piston Pump H1 45 and 53 cc**


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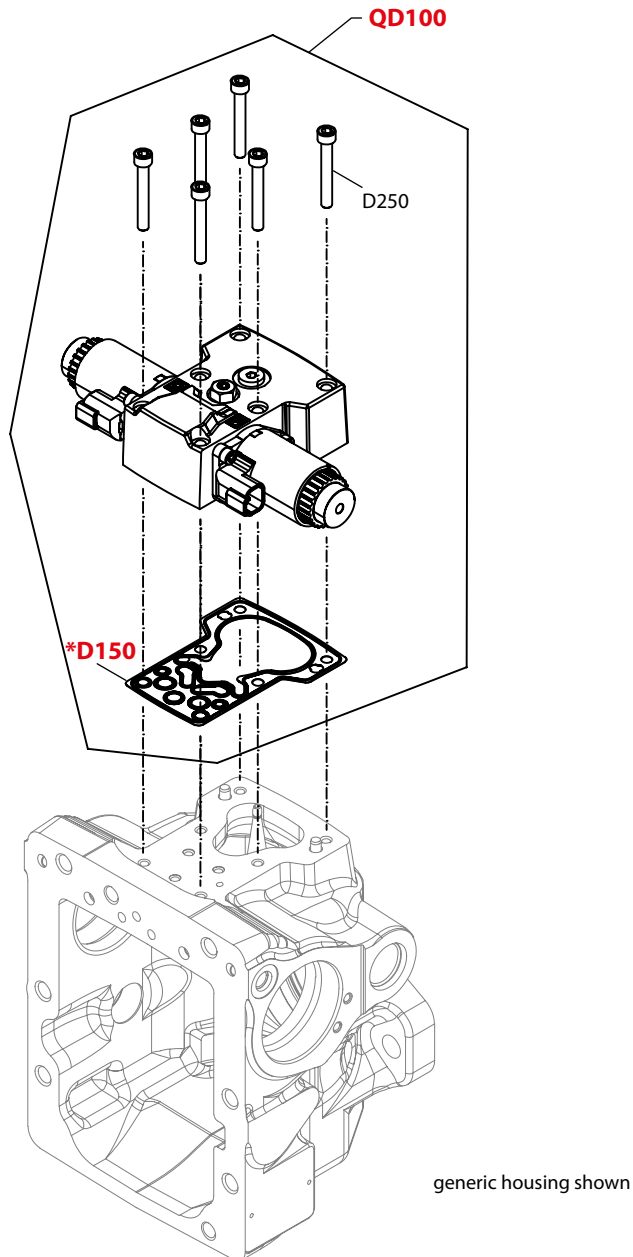
**Variable displacement pump**
*Common parts*

<b>Order Code</b>	<b>Item</b>	<b>Date Begin</b>	<b>Date End</b>	<b>Part Number</b>	<b>Part Name</b>	<b>Qty. per Model/Kit</b>
	B010	07-19		5000757	Dowel pin	2
	B015	07-19		327007 (9005110-4400)	Plug assembly	2
	B020	07-19		664524 (9005110-9000)	Plug assembly	2
	C010			141631	Cylinder block kit, 45 cc	1
	C010			141632	Cylinder block kit, 53 cc	1
	C020	07-19		9004700-1907	Valve plate pin,	2
	C025	07-19		11061671	Valve plate, CW	1
	C025	07-19		11061672	Valve plate, CCW	1
	C15	07-19		140625	Slipper retainer ball guide	1
	C20	07-19		141946	Slipper retainer	1
	C25	07-19		4700091	Slipper hold down pin	3
	D070	12-21		11068328	Swashplate (SB-2008-056, SB-2009-043 & SB-2011-020)	1
	G250	07-19		140644	Plug assembly	1
	G251	07-19		140644	Plug assembly	1
	G300	07-19		140644	Plug assembly	1
	G302	07-19		140644	Plug assembly	1
	G450	07-19		5000757	Pin	2
	G960	07-19		508438	Screw	2
	G970	07-19		4800754	Lifting bracket	2
	QC10	07-19		11020841	Slipper/piston kit, 45 cc	1
	QC10	07-19		11020932	Slipper/piston kit, 53 cc	1
	QD075	07-19		11085533	Swashplate bearing kit (SB-2010-020)	1

Variable displacement pump

Control kits

12V EDC (A2), 24V EDC (A3)



\* = included in overhaul seal kit Q210

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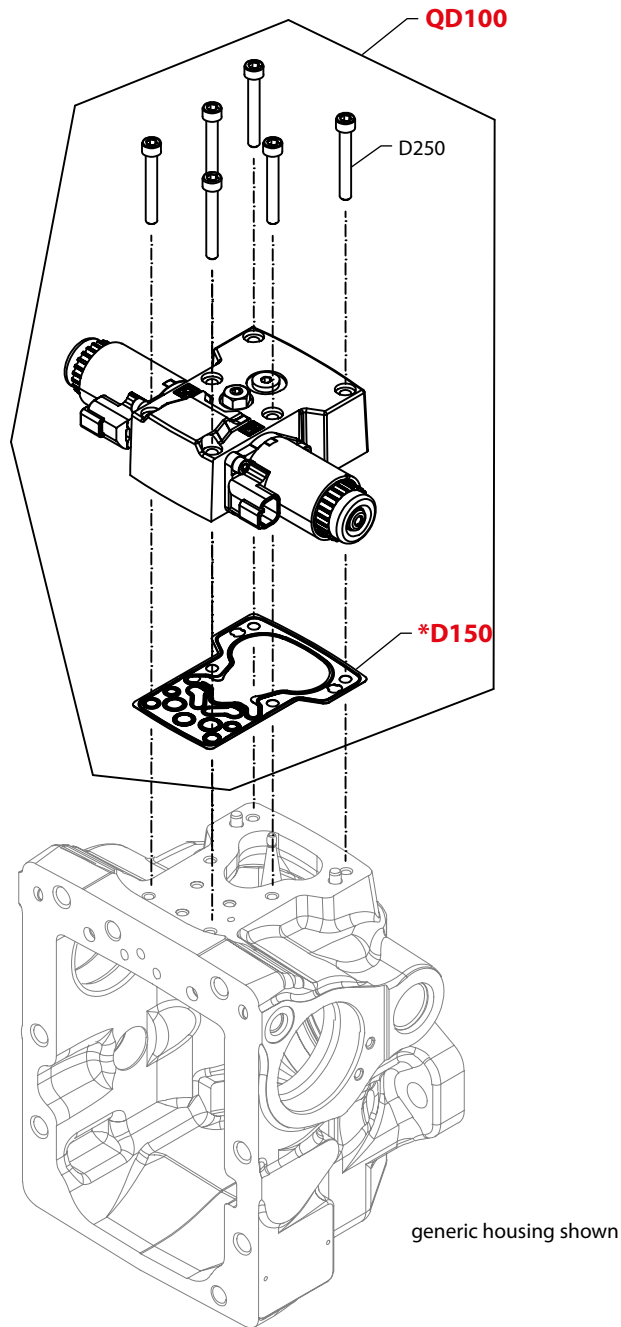
Enlarged **bold** type item numbers are recommended part to stock for servicing.

**Variable displacement pump***12V/24V EDC kit*

<b>Order Code</b>	<b>Item</b>	<b>Date Begin</b>	<b>Date End</b>	<b>Part Number</b>	<b>Part Name</b>	<b>Qty. per Model/Kit</b>
<b>A2</b>	D150	06-01		140879	Control gasket, H1	1
	D250	06-01		505038	Screw	6
	QD100	06-01		11019680	EDC kit, 12V, high gain spool	1
<b>A3</b>	D150	06-01		140879	Control gasket, H1	1
	D250	06-01		505038	Screw	6
	QD100	06-01		11019681	EDC kit, 24V, high gain spool	1

Variable displacement pump

12V EDC with MOR (A4), 24V EDC with MOR (A5)



\* = included in overhaul seal kit Q210

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



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**Conversion Manual      Axial Piston Pump H1 45 and 53 cc**

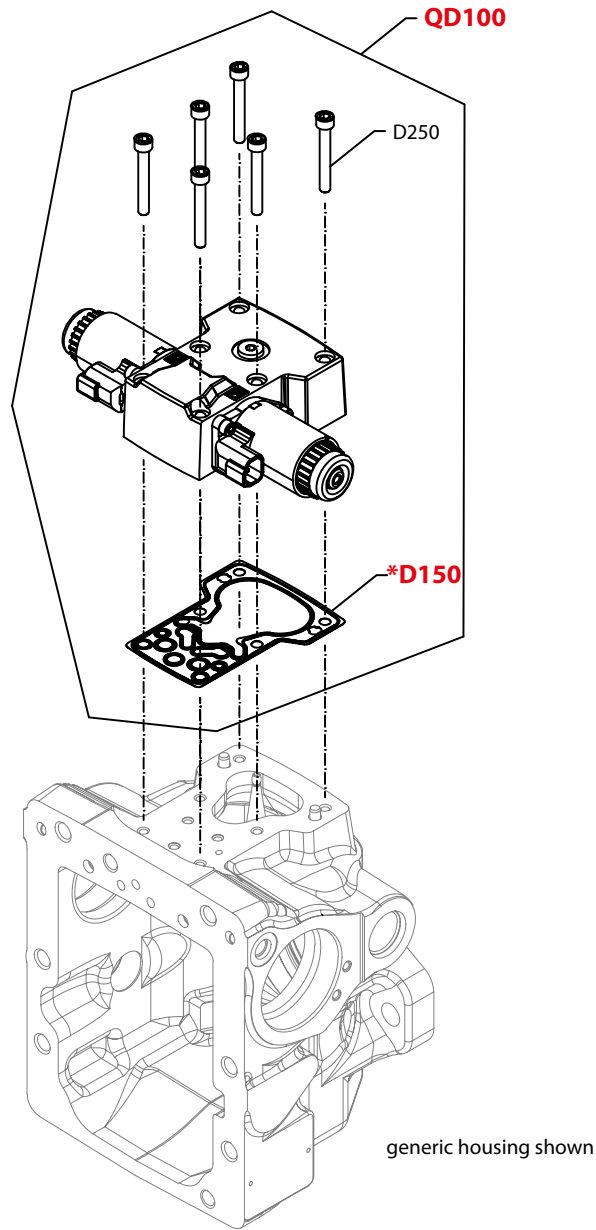
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**Variable displacement pump***12V/24V EDC kit with MOR*

<b>Order Code</b>	<b>Item</b>	<b>Date Begin</b>	<b>Date End</b>	<b>Part Number</b>	<b>Part Name</b>	<b>Qty. per Model/Kit</b>
<b>A4</b>	D150	06-01		140879	Control gasket, H1	1
	D250	06-01		505038	Screw	6
	QD100	06-01		11019732	EDC kit, 12V, high gain spool,manual override	1
<b>A5</b>	D150	06-01		140879	Control gasket, H1	1
	D250	06-01		505038	Screw	6
	QD100	06-01		11019733	EDC kit, 24V, high gain spool, manual override	1

Variable displacement pump

12V FNR (A9), 24V FNR (B1)



\* = included in overhaul seal kit Q210

P108893

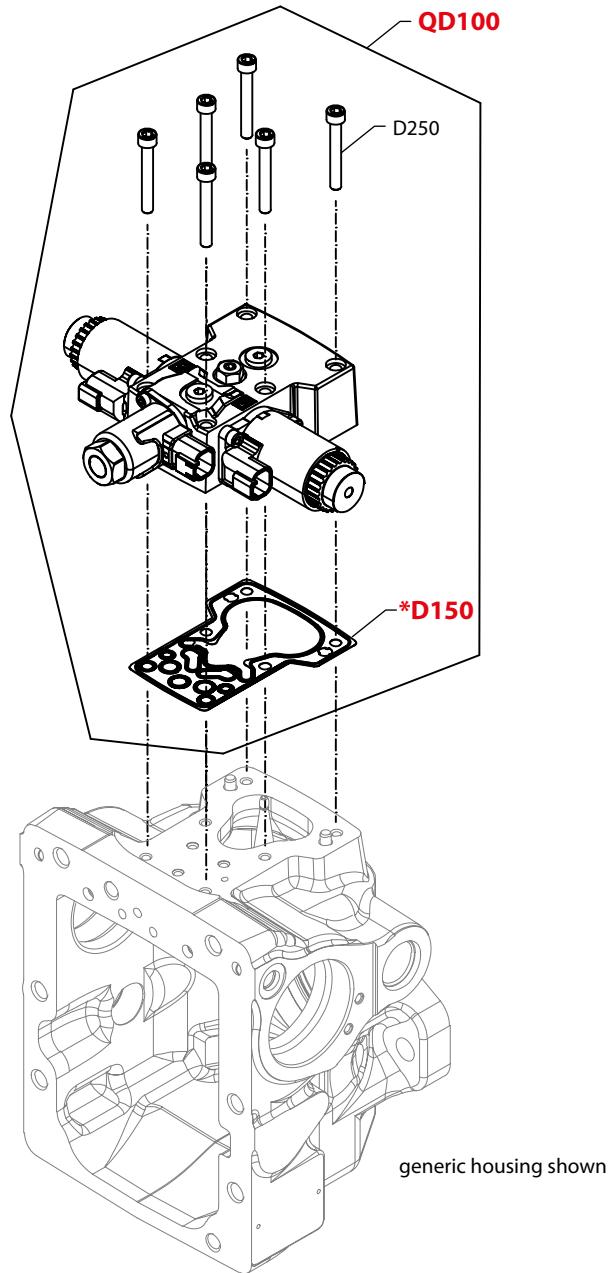
Enlarged **bold** type item numbers are recommended part to stock for servicing.

**Variable displacement pump**
*12V/24V FNR control kit*

<b>Order Code</b>	<b>Item</b>	<b>Date Begin</b>	<b>Date End</b>	<b>Part Number</b>	<b>Part Name</b>	<b>Qty. per Model/Kit</b>
<b>A9</b>	D150	06-01		140879	Control gasket, H1	1
	D250	06-01		505038	Screw	6
	QD100	06-01		11019733	FNR control kit, 12V, manual override, DEUTSCH conn.	1
<b>B1</b>	QD100	06-01		140879	Control gasket, H1	1
	D250	06-01		505038	Screw	6
	QD100	07-19		11019733	FNR control kit, 24V, manual override, DEUTSCH conn.	1

Variable displacement pump

12V EDC with 12V CCO (E7), 24V EDC with 24V CCO (E8)



\* = included in overhaul seal kit Q210

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

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**Conversion Manual      Axial Piston Pump H1 45 and 53 cc**


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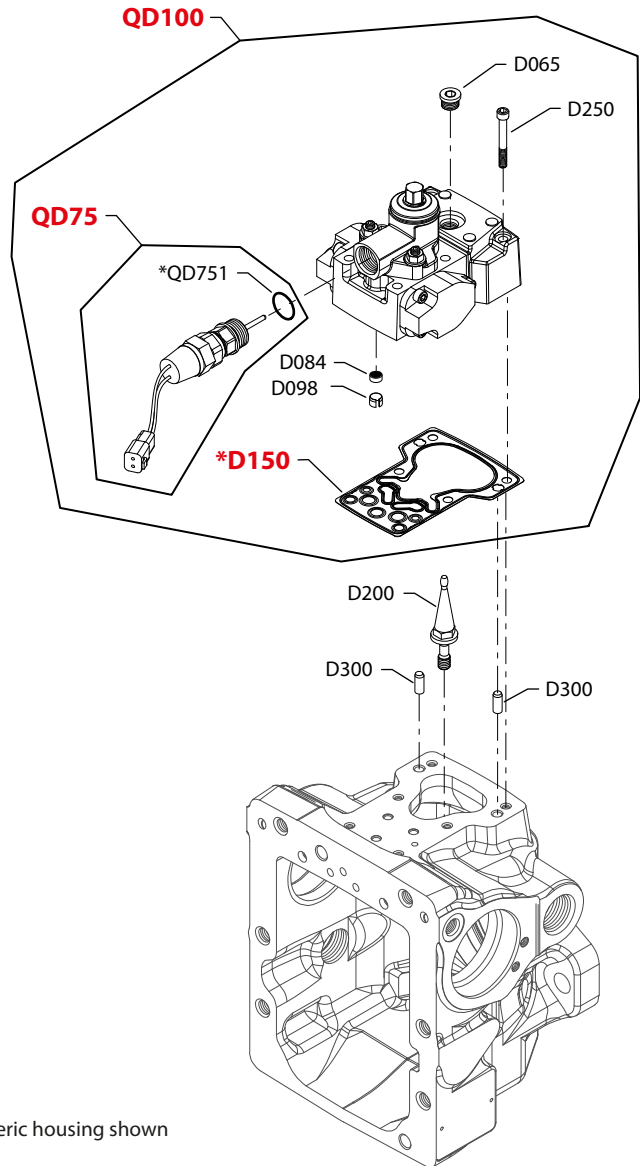
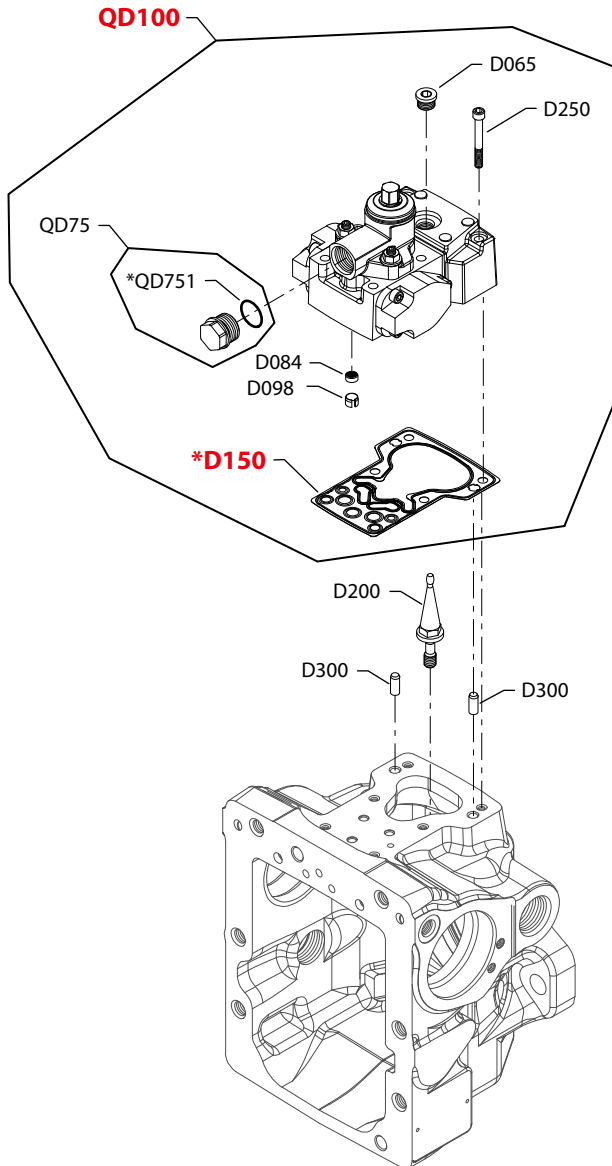
**Variable displacement pump**

*12V EDC with 12V CCO, 24V EDC with 24V CCO*

<b>Order Code</b>	<b>Item</b>	<b>Date Begin</b>	<b>Date End</b>	<b>Part Number</b>	<b>Part Name</b>	<b>Qty. per Model/Kit</b>
<b>E7</b>	D150	10-27		140879	Control gasket, H1	1
	D250	10-27		505038	Screw	6
	QD100			11147471	EDC kit 12V with keyed CCO	1
<b>E8</b>	D150	10-27		140879	Control gasket, H1	1
	D250	10-27		505038	Screw	6
	QD100			11147472	EDC kit 24V with keyed CCO	1

Variable displacement pump

MDC (M1), MDC with NSS (M2)



generic housing shown

\* = included in overhaul seal kit Q210

E103 357E

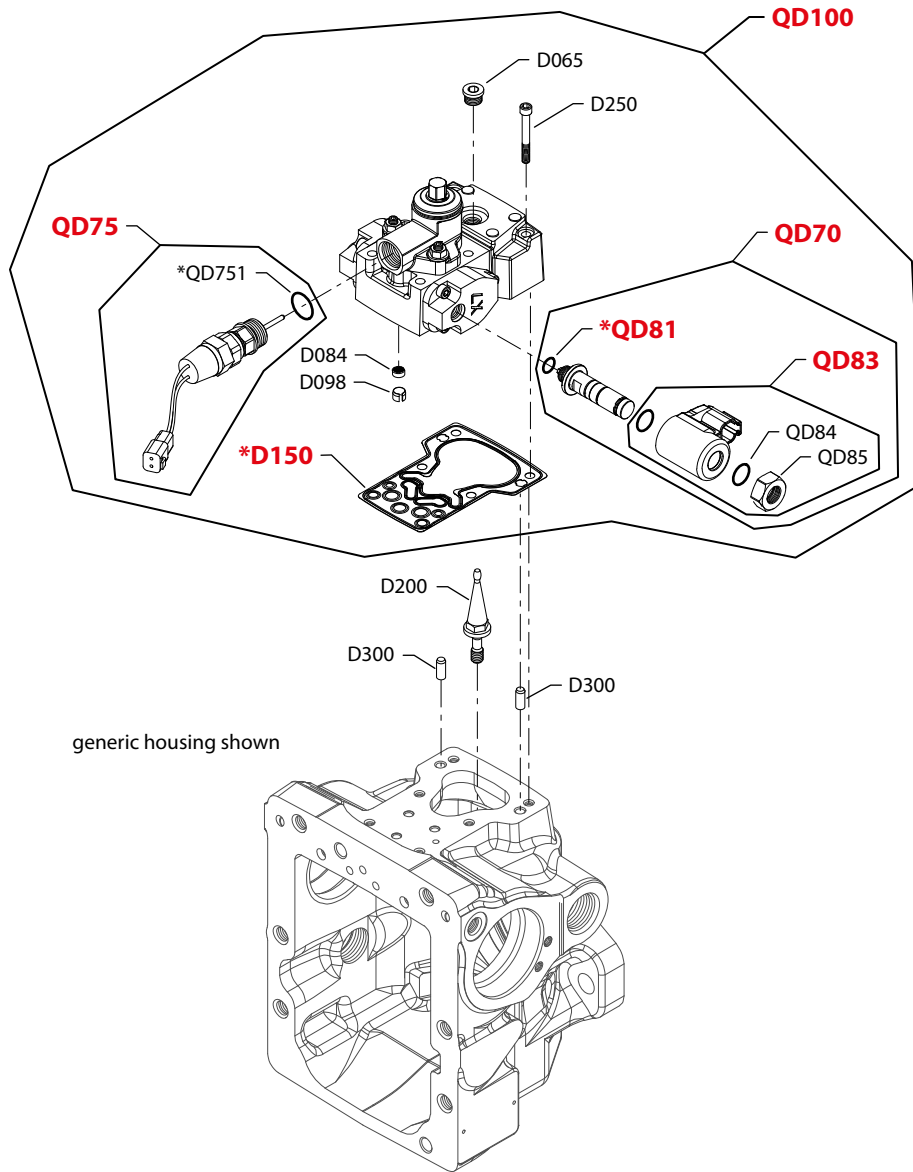
Enlarged **bold** type item numbers are recommended part to stock for servicing.

**Variable displacement pump***MDC, MDC with NSS*

<b>Order Code</b>	<b>Item</b>	<b>Date Begin</b>	<b>Date End</b>	<b>Part Number</b>	<b>Part Name</b>	<b>Qty. per Model/Kit</b>
<b>M1</b>	QD100	14-01		11141225	MDC kit	1
<b>M2</b>	QD100	14-01		11141236	MDC with NSS kit	1

Variable displacement pump

MDC with 12V CCO (M3), MDC with 24V CCO (M4)



E103 359E

\* = included in overhaul seal kit Q210

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



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**Conversion Manual      Axial Piston Pump H1 45 and 53 cc**

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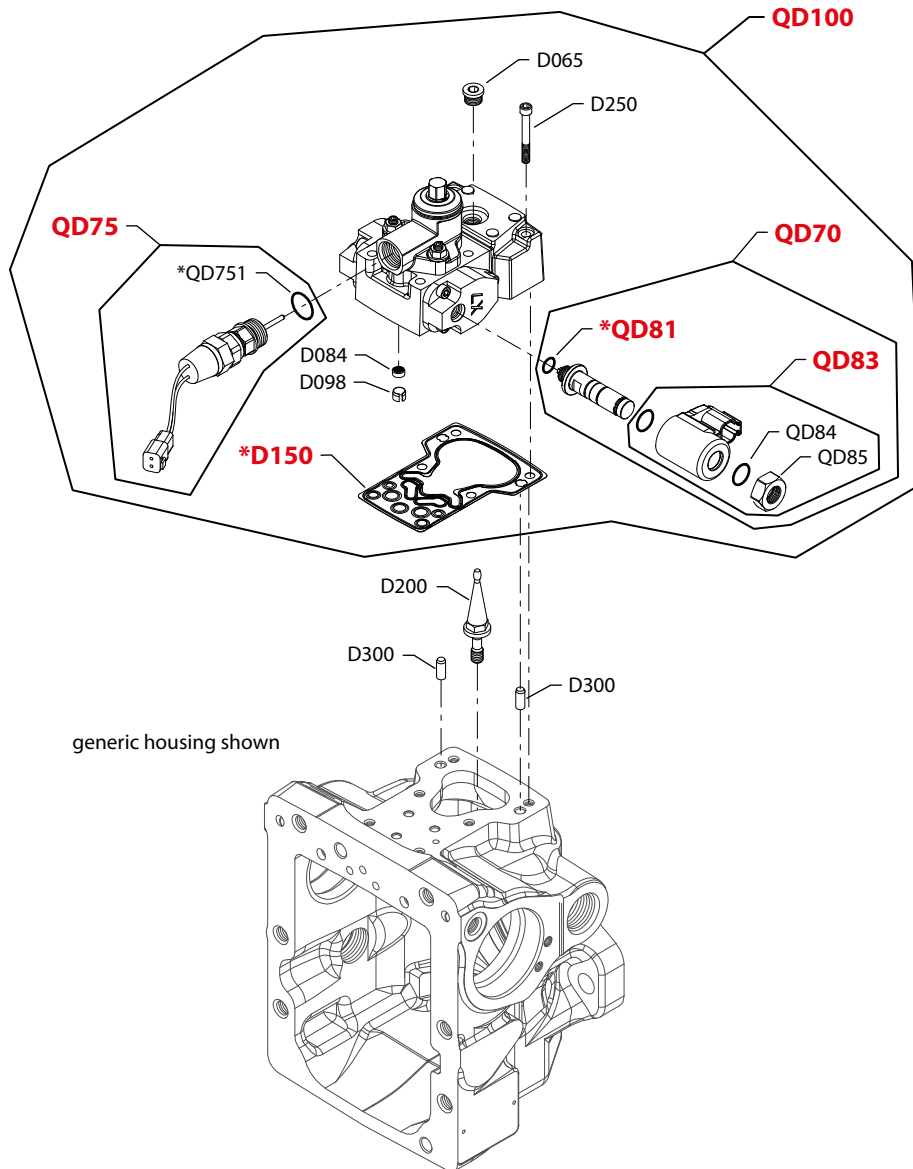
**Variable displacement pump**

*MDC with 12V CCO, MDC with 24V CCO*

<b>Order Code</b>	<b>Item</b>	<b>Date Begin</b>	<b>Date End</b>	<b>Part Number</b>	<b>Part Name</b>	<b>Qty. per Model/Kit</b>
<b>M3</b>	QD100	14-01		11141237	MDC with 12V CCO kit	1
<b>M4</b>	QD100	14-01		11141238	MDC with 24V CCO kit	1

Variable displacement pump

MDC with NSS and 12V CCO (M5), MDC with NSS and 24V CCO (M6)



\* = included in overhaul seal kit Q210

E103 359E

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

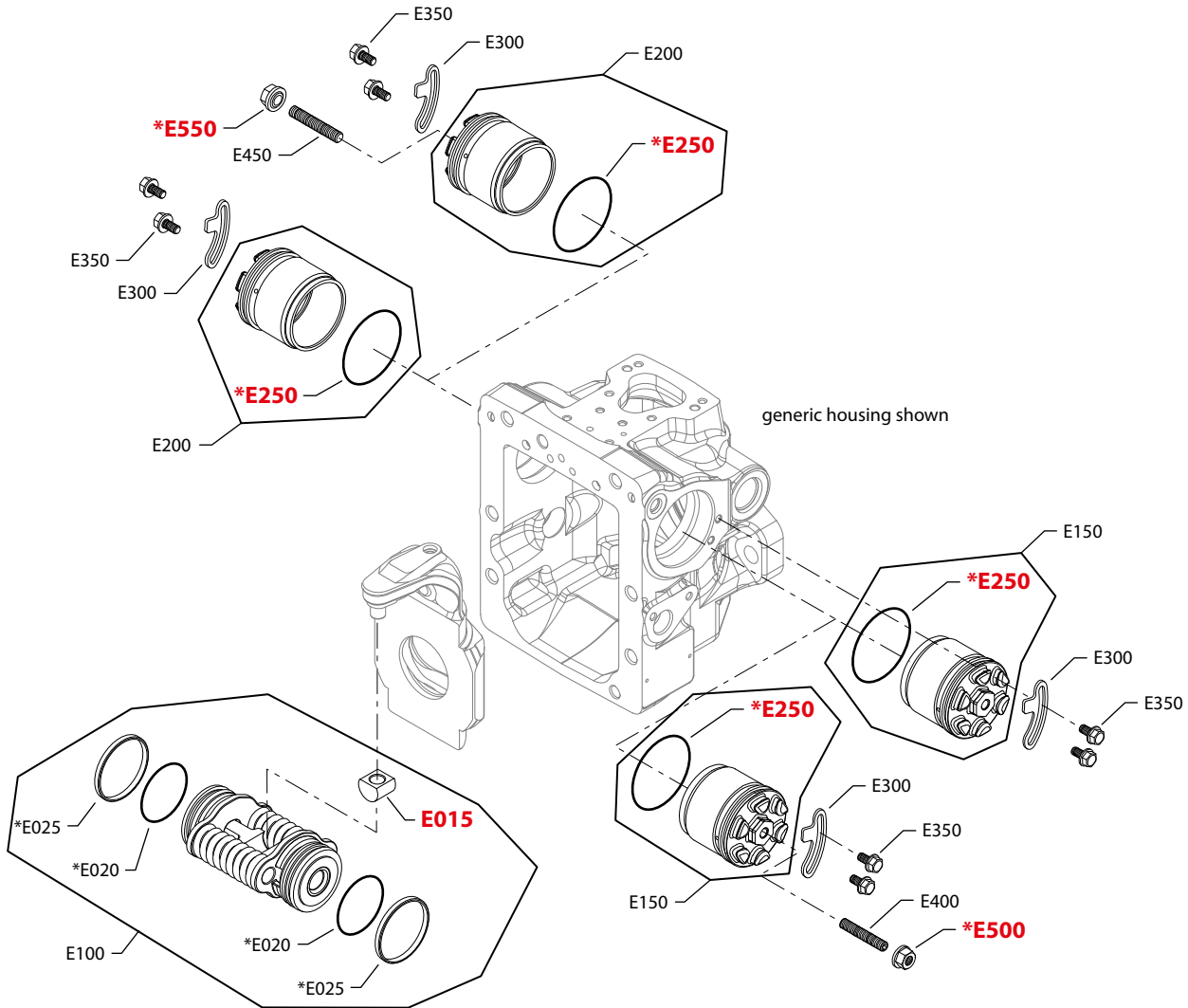
**Variable displacement pump**

*MDC with NSS and 12V CCO, MDC with NSS and 24V CCO*

<b>Order Code</b>	<b>Item</b>	<b>Date Begin</b>	<b>Date End</b>	<b>Part Number</b>	<b>Part Name</b>	<b>Qty. per Model/Kit</b>
<b>M5</b>	QD100	14-01		11141239	MDC with NSS and 12V CCO	1
<b>M6</b>	QD100	14-01		11141240	MDC with NSS and 24V CCO	1

Variable displacement pump

Displacement limitation



E100 941E

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

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**Conversion Manual      Axial Piston Pump H1 45 and 53 cc**

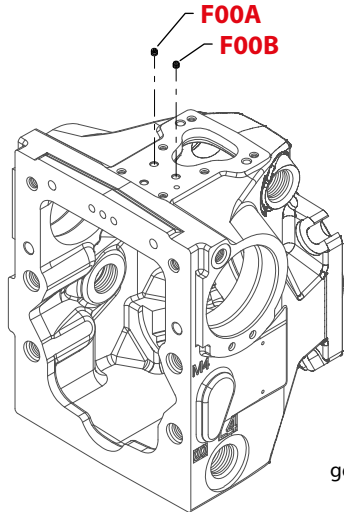

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**Variable displacement pump**
*Displacement limitation*

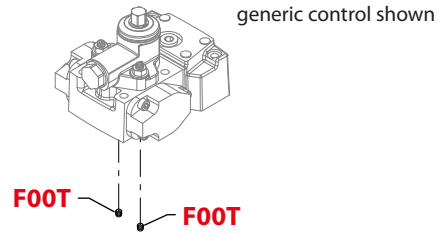
<b>Order Code</b>	<b>Item</b>	<b>Date Begin</b>	<b>Date End</b>	<b>Part Number</b>	<b>Part Name</b>	<b>Qty. per Model/Kit</b>
<b>B</b>	E100	12-21		11094107	Servo piston assembly (SB-2011-020)	1
	E015	12-21		11014805	Slider block (SB-2011-020)	1
	E020	07-19		5000732	O-ring	2
	E025	07-19		11028034	Piston seal ring (SB-2007-026)	2
	E150	07-19		11059648	Servo cylinder assembly, adjustable (SB-2007-004)	1
	E200	07-19		11059648	Servo cylinder assembly, adjustable (SB-2007-004)	1
	E250	07-19		5000709	O-ring	2
	E300	07-23		11013910	Locking plate	2
	E350	07-19		508438	Screw	2
	E400	07-19		5000747	Set screw	1
	E450	07-19		5000747	Set screw	1
	E500	07-19		505412 (9003509-0008)	Seal nut	1
	E550	07-19		505412 (9003509-0008)	Seal nut	1
<b>N</b>	E100	12-21		11094107	Servo piston assembly (SB-2011-020)	1
	E015	12-21		11014805	Slider block (SB-2011-020)	1
	E020	07-19		5000732	O-ring	2
	E025	07-19		11028034	Piston seal ring (SB-2007-026)	2
	E150	07-30		11059647	Servo cylinder assembly (SB-2007-004)	1
	E200	07-30		11059647	Servo cylinder assembly (SB-2007-004)	1
	E250	07-19		5000709	O-ring	2
	E300	07-30		11013910	Locking plate	2
	E350	07-19		508438	Screw	4

Variable displacement pump

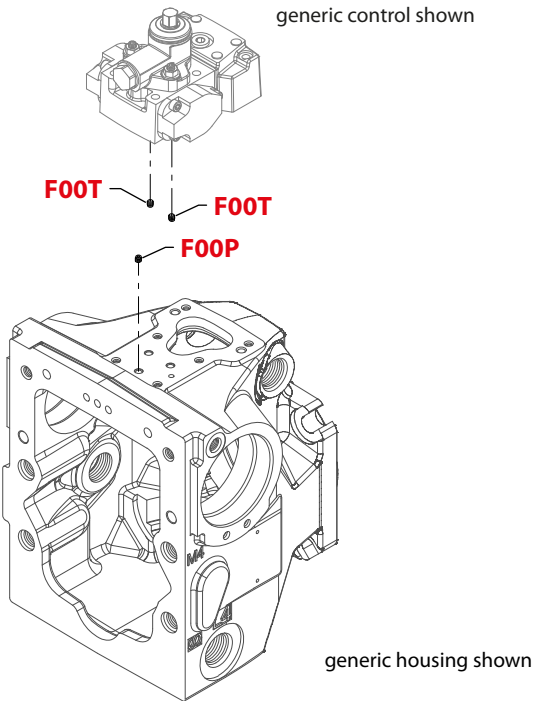
Orifice



generic housing shown

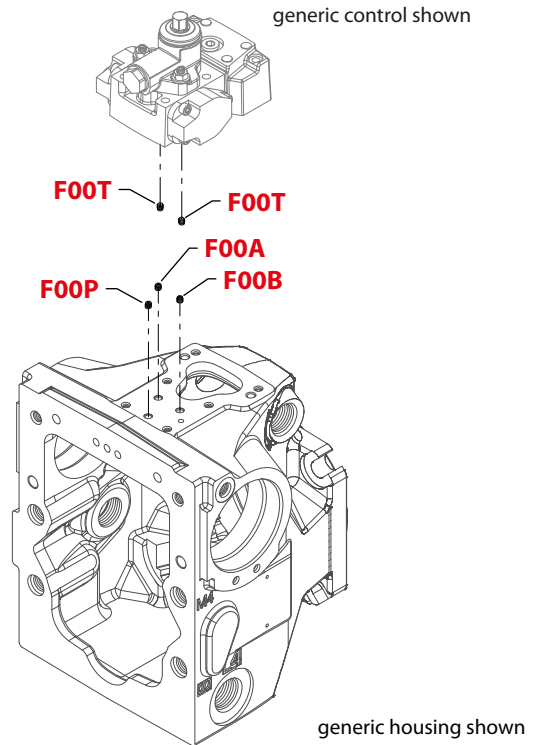


generic control shown



generic control shown

generic housing shown



generic control shown

generic housing shown

E103 361E

\* = included in overhaul seal kit Q210

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

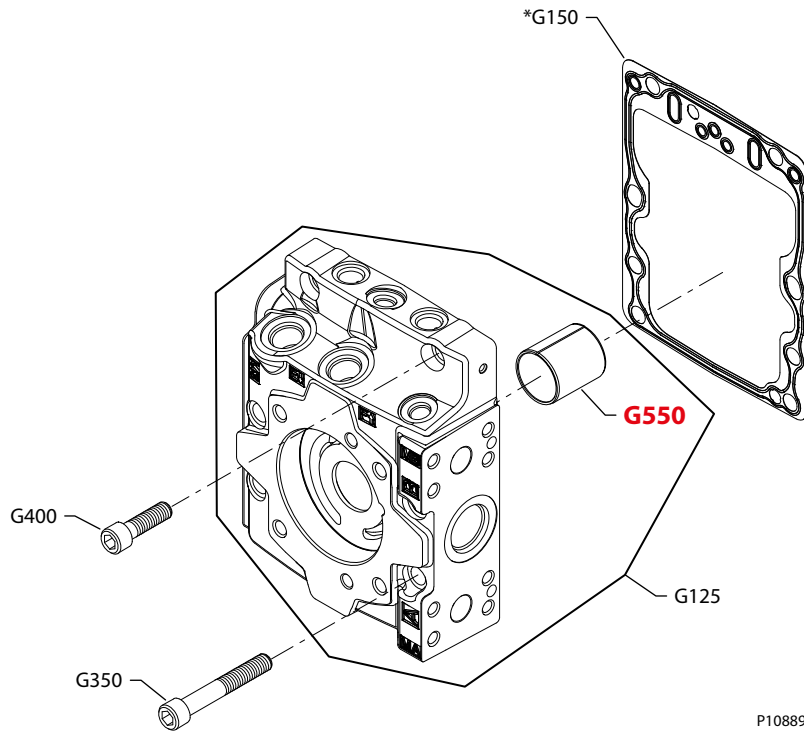
**Variable displacement pump**
*Orifice*

<b>Order Code</b>	<b>Item</b>	<b>Date Begin</b>	<b>Date End</b>	<b>Part Number</b>	<b>Part Name</b>	<b>Qty. per Model/Kit</b>
<b>C1</b>	F00A	10-48		140611	Orifice, 0.8, M6 x 0.75 mm	1
	F00B	10-48		140611	Orifice, 0.8, M6 x 0.75 mm	1
<b>C2</b>	F00A	10-48		140754	Orifice, 1.3, M6 x 0.75 mm	1
	F00B	10-48		140754	Orifice, 1.3, M6 x 0.75 mm	1
<b>C3</b>	None					
<b>C6</b>	F00T	14-44		11151734	Orifice, 1.0, M6 x 0.75 mm	2
<b>C7</b>	F00T	14-44		11151734	Orifice, 1.0, M6 x 0.75 mm	2
<b>C8</b>	F00P	14-44		140611	Orifice, 0.8, M6 x 0.75 mm	1
	F00T	14-44		11151733	Orifice, 0.6, M6 x 0.75 mm	2
<b>C9</b>	F00P	14-44		11151734	Orifice, 1.0, M6 x 0.75 mm	1
	F00T	14-44		11151733	Orifice, 0.6, M6 x 0.75 mm	2
<b>D1</b>	F00P	14-44		11151734	Orifice, 1.0, M6 x 0.75 mm	1
	F00T	14-44		140611	Orifice, 0.8, M6 x 0.75 mm	2
<b>D2</b>	F00P	14-44		140754	Orifice, 1.3, M6 x 0.75 mm	1
	F00T	14-44		140611	Orifice, 0.8, M6 x 0.75 mm	2
<b>D3</b>	F00P	14-44		140754	Orifice, 1.3, M6 x 0.75 mm	1
	F00T	14-44		11151734	Orifice, 1.0, M6 x 0.75 mm	2
<b>D4</b>	F00A	14-44		140754	Orifice, 1.3, M6 x 0.75 mm	1
	F00B	14-44		140754	Orifice, 1.3, M6 x 0.75 mm	1
	F00P	14-44		140754	Orifice, 1.3, M6 x 0.75 mm	1
	F00T	14-44		11151734	Orifice, 1.0, M6 x 0.75 mm	2
<b>D5</b>	F00A	14-44		140611	Orifice, 0.8, M6 x 0.75 mm	1
	F00B	14-44		140611	Orifice, 0.8, M6 x 0.75 mm	1
	F00P	14-44		11151733	Orifice, 0.6, M6 x 0.75 mm	1
	F00T	14-44		11151733	Orifice, 0.6, M6 x 0.75 mm	2

Variable displacement pump

End cap

End cap (D8)



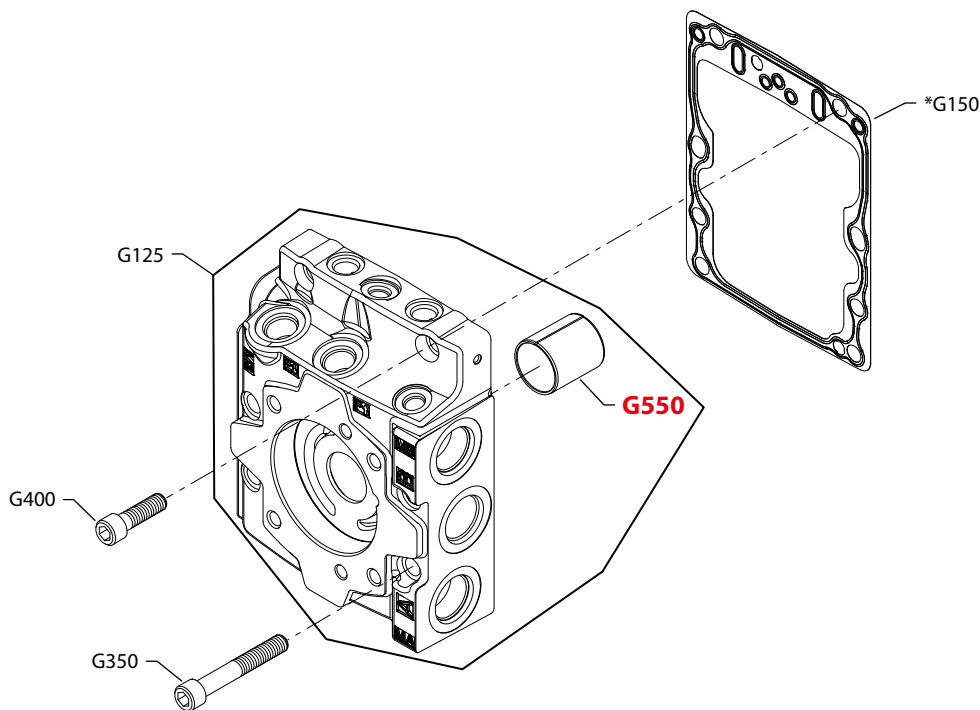
\* = included in overhaul seal kit Q210

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



Variable displacement pump

End cap (E5)



E100 943E

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

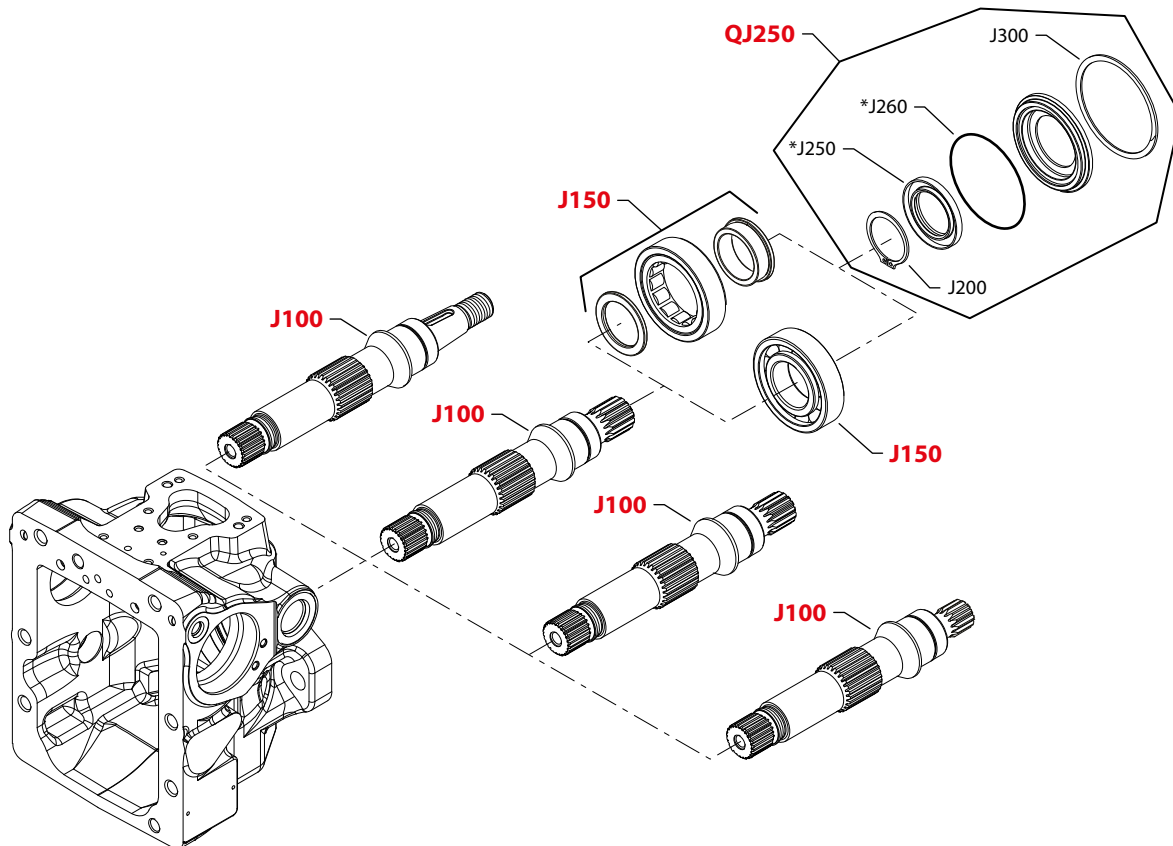
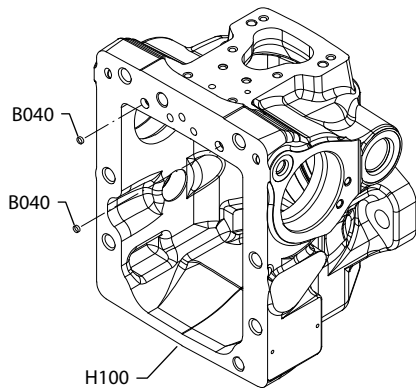
\* = included in overhaul seal kit Q210

End cap

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
<b>D8</b>	G125	07-19		11013563	End cap assembly, CW, remotefiltration	1
	G125	07-19		11013555	End cap assembly, CCW, remotefiltration	1
	G150	07-19		141504	End cap gasket	1
	G350	07-19		010850	Screw	4
	G400	07-19		290502	Screw	2
	G550	07-19		141593	Journal bearing	1
<b>E5</b>	G125	07-19		11013564	End cap assembly, CW, remote filtration	1
	G125	07-19		11013556	End cap assembly, CCW, remote filtration	1
	G150	07-19		141504	End cap gasket	1
	G350	07-19		010850	Screw	4
	G400	07-19		290502	Screw	2
	G550	07-19		141593	Journal bearing	1

Variable displacement pump

Housing and Shaft



E100 946E

\* = included in overhaul seal kit Q210

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

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**Conversion Manual      Axial Piston Pump H1 45 and 53 cc**


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**Variable displacement pump**
*Housing*

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
<b>F</b>	B040	07-19		140967	Screen	2
	H100	07-19		11083398	Housing	1

*Common shaft parts*

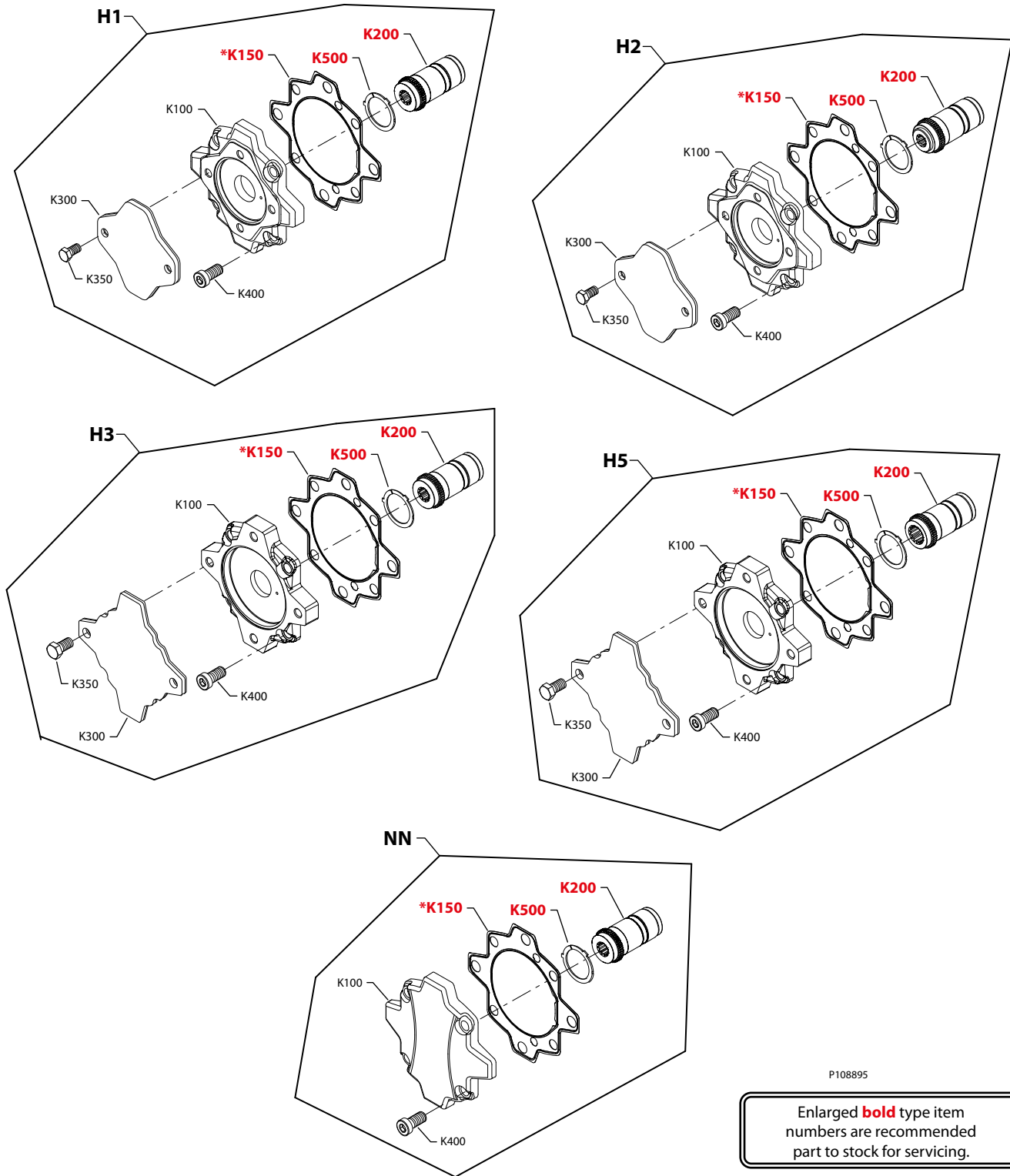
	J200	07-19		9006300-0137	Retaining ring	1
	J250	07-19		141936	Lip seal	1
	J260	07-19		9004104-2310	O-ring	1
	J300	07-19		9006200-0281	Retaining ring	1
	QJ250	07-19		4510479	Shaft seal kit	1

*Shaft*

<b>F2</b>	J100	07-19		141961	Shaft, 25.4 mm tapered	1
	J150	07-19		357616	Roller bearing	1
<b>F5</b>	J100	07-19		141954	Shaft, 15 tooth spline	1
	J150	07-19		5000731	Ball bearing	1
<b>G1</b>	J100	07-19		141942	Shaft, 14 tooth spline	1
	J150	07-19		357616	Roller bearing	1
<b>G4</b>	J100	07-19		141953	Shaft, 13 tooth spline	1
	J150	07-19		357616	Roller bearing	1
<b>G5</b>	J100	07-19		141954	Shaft, 15 tooth spline	1
	J150	07-19		357616	Roller bearing	1

Variable displacement pump

Auxiliary mounting kits



P108895

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

**Variable displacement pump**
*Auxiliary mounting*

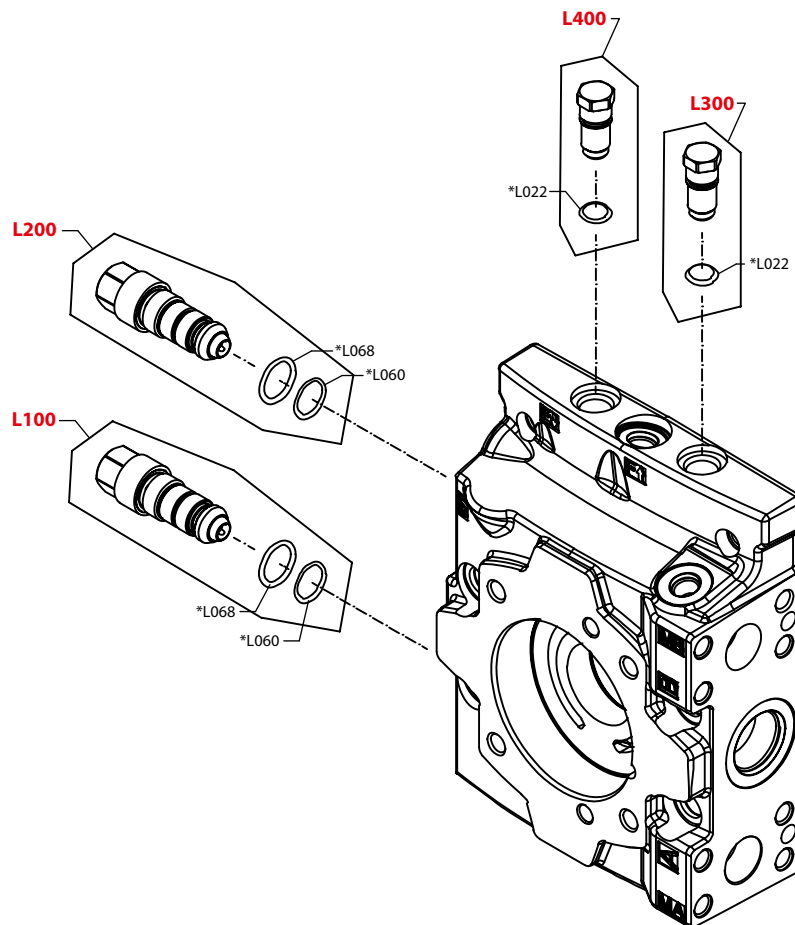
<b>Order Code</b>	<b>Item</b>	<b>Date Begin</b>	<b>Date End</b>	<b>Part Number</b>	<b>Part Name</b>	<b>Qty. per Model/Kit</b>
<b>H1</b>				11157221	A-Auxiliary pad with 11T coupling	1
<b>H2</b>				11157220	A-Auxiliary pad with 9T coupling	1
<b>H3</b>				11157222	B-Auxiliary pad with 13T coupling	1
<b>H5</b>				11157223	B-Auxiliary pad with 15T coupling	1
<b>NN</b>	K100	07-19		141249	Adapter flange, no pad	1
	K150	07-19		11029873	Adapter flange gasket (SB-2007-023)	1
	K200	07-19		141591	Coupling, 13 tooth	1
	K400	07-19		11000819	Screw	4
	K500	07-19		141105	Thrust plate	1

Variable displacement pump

High pressure setting, port A and port B

Pressure protection replacement seals

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
all	L022	07-19		041152	O-ring (pump with pressure limiter)	1
	L024	07-19		11054668	Nut (pump with pressure limiter)	2
	L060	07-19		141109	O-ring	1
	L068	07-19		11052215	O-ring	1



P108897

\* = included in overhaul seal kit Q210

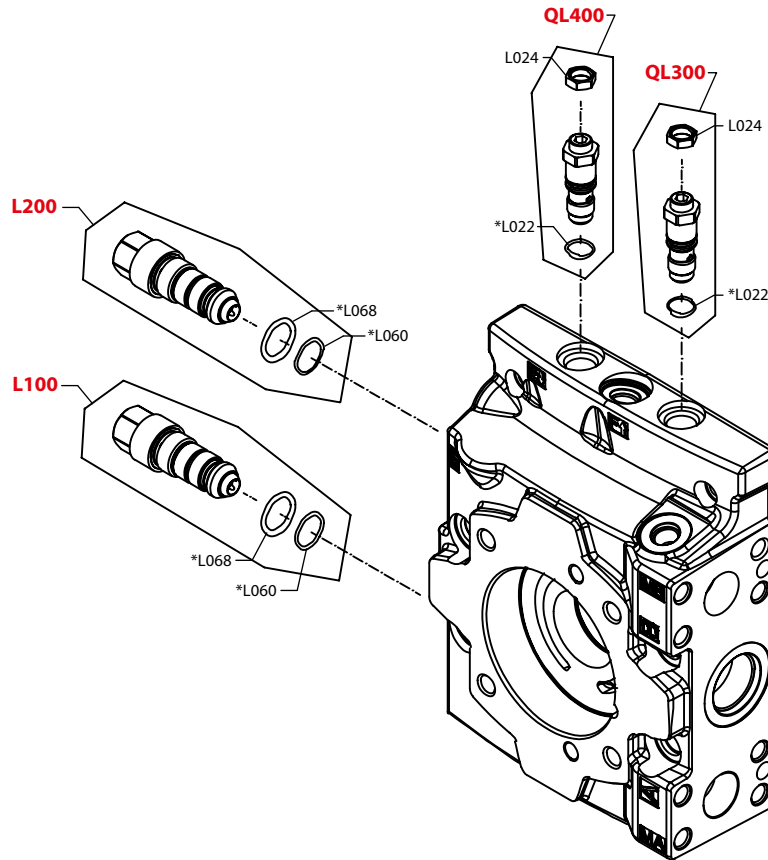
Enlarged **bold** type item numbers are recommended part to stock for servicing.

Hardware location for all "K" pressure protection type per pump rotation				
Pump Rotation	PL Plug Port A	PL PlugPort B	HPRV Port A	HPRV Port B
CW (R)	L400	L300	L100	L200
CCW (L)	L300	L400	L100	L200

**Variable displacement pump**

<b>Order Code</b>	<b>Part Type</b>	<b>Pressure Setting</b>	<b>Part Number</b>	<b>Qty. Per Port</b>
<b>All</b>	PL Plug	All K options require a PL plug in the endcap	11002291	1
<b>K18</b>	HPRV	180 Bar	11049120	1
<b>K20</b>	HPRV	200 Bar	11049121	1
<b>K23</b>	HPRV	230 Bar	11049122	1
<b>K25</b>	HPRV	250 Bar	11049123	1
<b>K28</b>	HPRV	280 Bar	11049124	1
<b>K30</b>	HPRV	300 Bar	11049125	1
<b>K33</b>	HPRV	330 Bar	11049126	1
<b>K35</b>	HPRV	350 Bar	11049127	1
<b>K38</b>	HPRV	380 Bar	11049128	1
<b>K40</b>	HPRV	400 Bar	11049129	1
<b>K42</b>	HPRV	420 Bar	11049130	1

Variable displacement pump



P108898

\* = included in overhaul seal kit Q210

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

Hardware Location for All "L" Pressure Protection Type per Pump Rotation				
Pump Rotation	PL Port A	PL Port B	HPRV Port A	HPRV Port B
CW (R)	QL400	QL300	L100	L200
CCW (L)	QL300	QL400	L100	L200

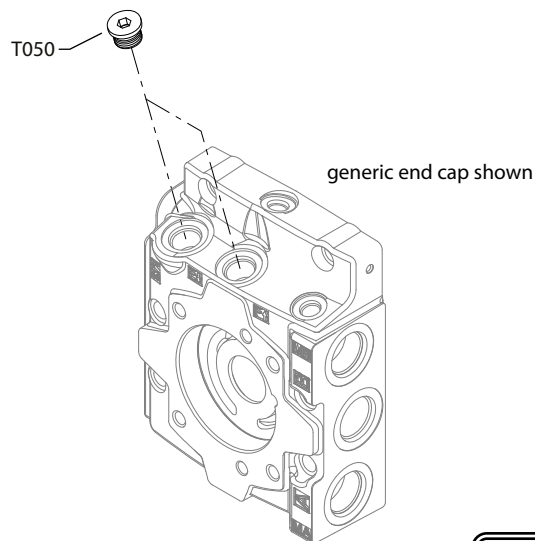
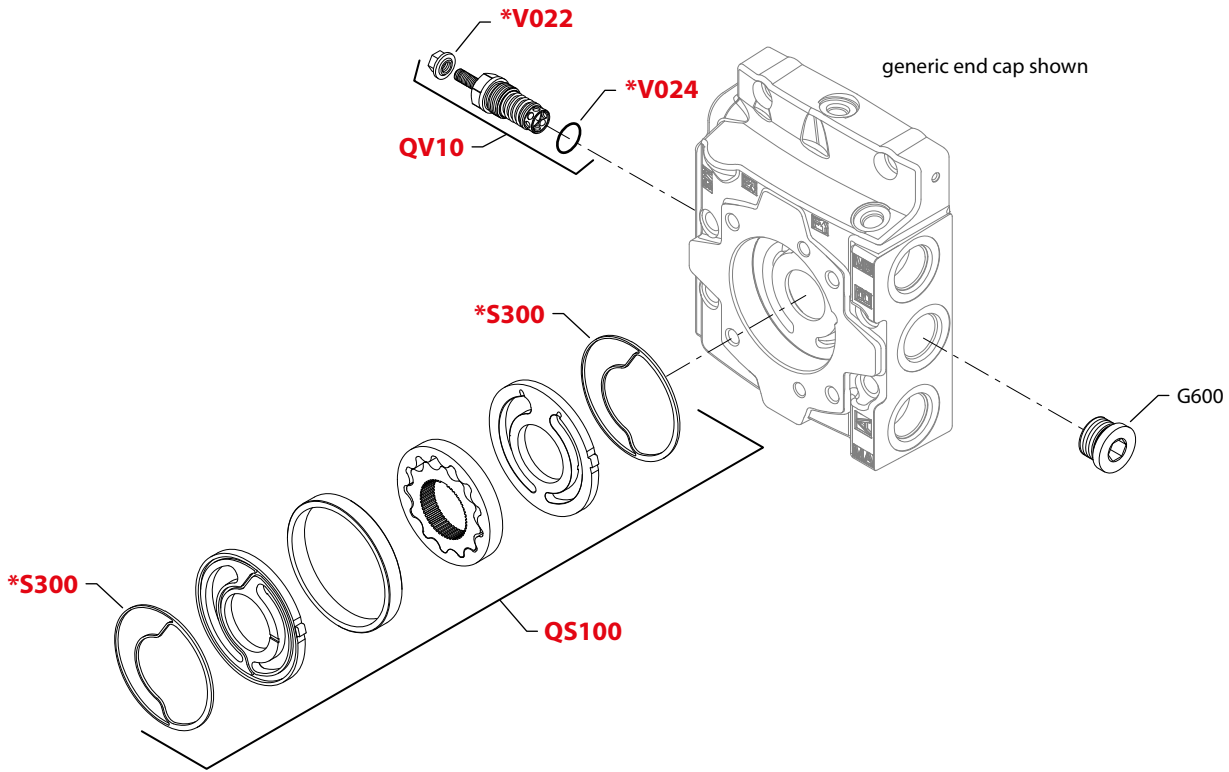


**Variable displacement pump**

Order Code	Part type	Pressure setting	Part number	Qty. Per Port
<b>L15</b>	PL	Adjust PL to 150 Bar	11050482	1
	HPRV	200 Bar	11049121	1
<b>L18</b>	PL	Adjust PL to 180 Bar	11050482	1
	HPRV	250 Bar	11049123	1
<b>L20</b>	PL	Adjust PL to 200 Bar	11050482	1
	HPRV	250 Bar	11049123	1
<b>L23</b>	PL	Adjust PL to 230 Bar	11050482	1
	HPRV	280 Bar	11049124	1
<b>L25</b>	PL	Adjust PL to 250 Bar	11050482	1
	HPRV	300 Bar	11049125	1
<b>L28</b>	PL	Adjust PL to 280 Bar	11050482	1
	HPRV	330 Bar	11049126	1
<b>L30</b>	PL	Adjust PL to 300 Bar	11050482	1
	HPRV	350 Bar	11049127	1
<b>L33</b>	PL	Adjust PL to 330 Bar	11050482	1
	HPRV	380 Bar	11049128	1
<b>L35</b>	PL	Adjust PL to 350 Bar	11050482	1
	HPRV	400 Bar	11049129	1
<b>L38</b>	PL	Adjust PL to 380 Bar	11050482	1
	HPRV	420 Bar	11049130	1
<b>L40</b>	PL	Adjust PL to 400 Bar	11050482	1
	HPRV	450 Bar	11049131	1
<b>L41</b>	PL	Adjust PL to 410 Bar	11050482	1
	HPRV	450 Bar	11049131	1
<b>L42</b>	PL	Adjust PL to 420 Bar	11050482	1
	HPRV	450 Bar	11049131	1

Variable displacement pump

Charge pump and Charge pressure relief



\* = included in overhaul seal kit Q210

E100 949E

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

**Conversion Manual      Axial Piston Pump H1 45 and 53 cc**
**Variable displacement pump**
*Charge pump*

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
<b>B</b>	QS100	07-19		11016545	Charge pump kit, 12 cc	1
	S300	07-19		11009457	Seal ring (SB-2009-028)	2
<b>N</b>	G600	07-19		320002 (9005110-9200)	Plug assembly	1
<b>E</b>	T050	07-19		315325 (9005110-8700)	Plug assembly	2
<b>L</b>		07-19		None		
<b>P</b>	T050	07-19		315325 (9005110-8700)	Plug assembly	2

*Charge pressure relief*

<b>18-32</b>	QV10	07-19		11017127	Charge relief valve kit	1
	V022	07-19		612291 (9003508-0008)	Seal nut	1
	V024	07-19		001149 (9004201-6200)	O-ring	1

**Overhaul seal kit**
*Overhaul seal kit*

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	Q210	07-19		11134090	Overhaul seal kit	1

*Parts contained in overhaul seal kit (11134090)*

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	D060	06-01		612291 (9003508-0008)	Seal nut, M8 x 1	1
	D150	07-19		140879	Control gasket	1
	E020	07-19		5000732	O-ring, 45.47 x 1.78, nitrile	2
	E025	07-19		11028034	Piston seal ring	2
	E250	07-19		5000709	O-ring, 56.82 x 2.62, viton	2
	E500	07-19		505412 (9003509-0008)	Seal nut, M8 x 1.25, coarse thread	1
	E550	07-19		505412 (9003509-0008)	Seal nut, M8 x 1.25, coarse thread	1
	G150	07-19		141504	End cap gasket	1
	J250	07-19		141936	Lip seal	1
	J260	07-19		9004104-2310	O-ring, 66.27 x 3.53, viton	1
	K150	07-19		11029873	Adapter flange gasket	1
	L022	07-19		041152	O-ring, 12.00 x 2.00, nitrile	2
	L060	07-19		141109	O-ring, 16.00 x 1.50, viton	2
	L068	07-19		11052215	O-ring, 19.30 x 2.46, viton	2
	QD025A	07-19		11001952	O-ring, 18.00 x 1.50, viton	2
	QD080A	10-27		11059551	O-ring, 9.50 x 1.78, viton	1

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**Conversion Manual      Axial Piston Pump H1 45 and 53 cc**

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**Variable displacement pump**

*Parts contained in overhaul seal kit (11134090) (continued)*

<b>Order Code</b>	<b>Item</b>	<b>Date Begin</b>	<b>Date End</b>	<b>Part Number</b>	<b>Part Name</b>	<b>Qty. per Model/Kit</b>
	QH130	1 0 - 0 4		11013397	O-ring, 15.60 x 1.78, viton	1
	S300	07-19		11009457	Ring seal	2
	V022	07-19		612291 (9003508-0008)	Seal nut, M8 x 1, fine thread	1
	V024	07-19		001149 (9004201-6200)	O-ring, 19.18 x 2.46, nitrile	1









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