

ENGINEERING
TOMORROW

Danfoss

Series 45 Base Model Program Sales support information 1st July 2016

www.powersolutions.danfoss.com

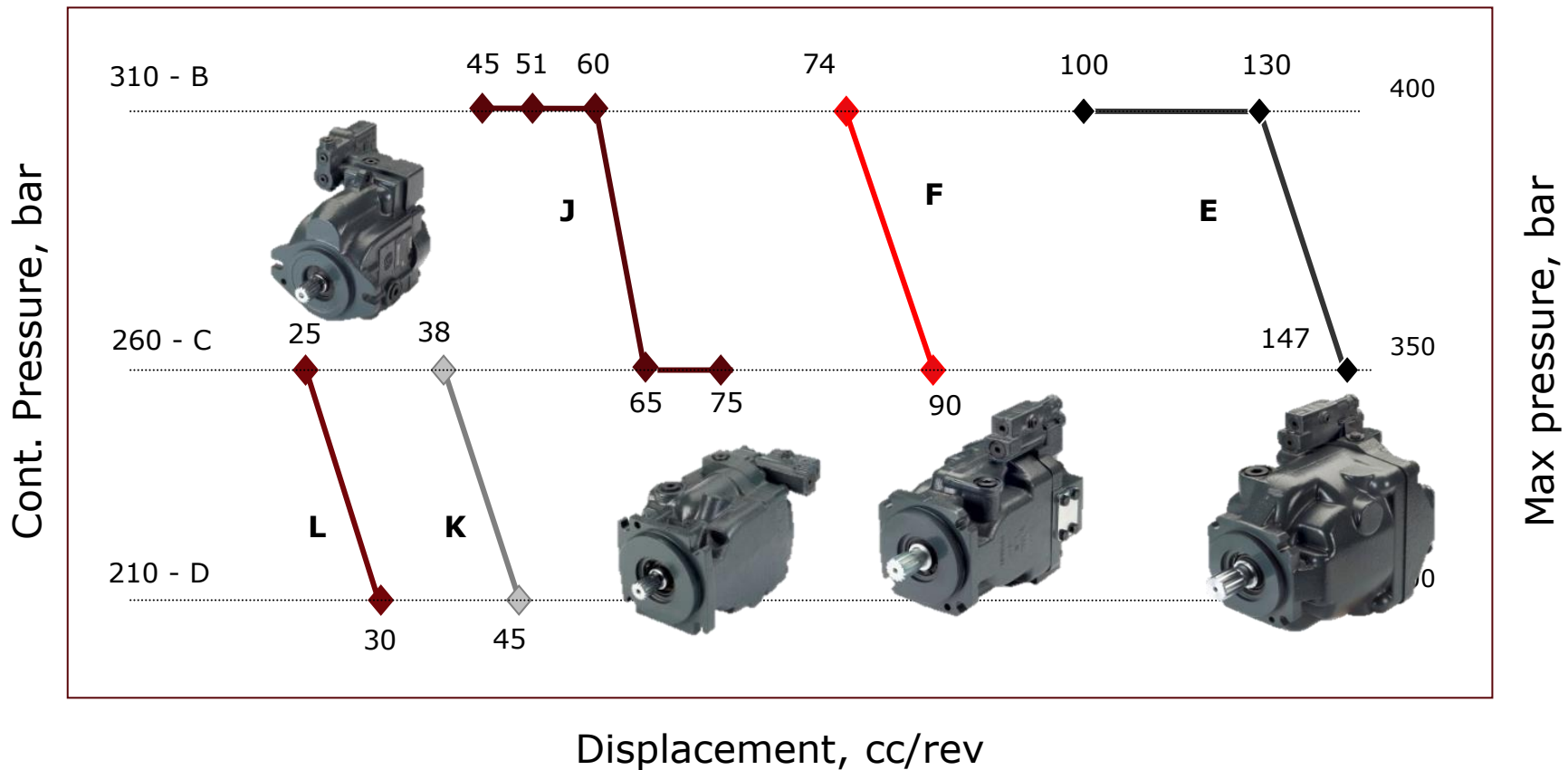


Document Content

- This document describes the width of the base model program
 - Model codes for a majority of the available options
 - Sales percentage of different options for guidance
 - Practical adjustment information related to the options
-
- Additionally to this presentation will Technical information, paint and test instructions be available at Partnerlink for download.

S45 - Product family

- Displacements from 25-147cc
- Up to 310bar continuous, 400bar max pressures



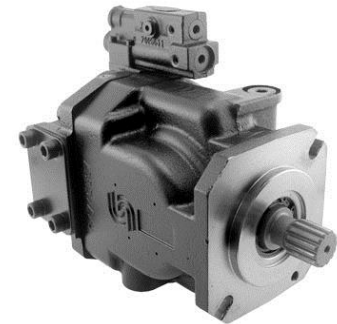
J, F and E-Frame Base Model Program Overview

- 45cc – 147cc Adjustable
- 260bar – 310bar
- 2-Bolt SAE B, 4-Bolt SAE C
- Running Cover for AUX Flange
- Available with Angle Sensor
- Shipping Cover for Controls
- Controls Available:
 - Fan Drive (EN, EM)
 - Electronic Torque Limiting (TA, TB, TE, TF)*
 - Proportional Control (PC)
 - Proportional Control with Load Sense (LS)
 - Remote PC (RP)
- Units come with displacement plug (when applicable), displacement limiter sold separately
- Unpainted with rust preventative applied and bagged from factory

J-Frame 45-75cc



F-Frame 74-90cc

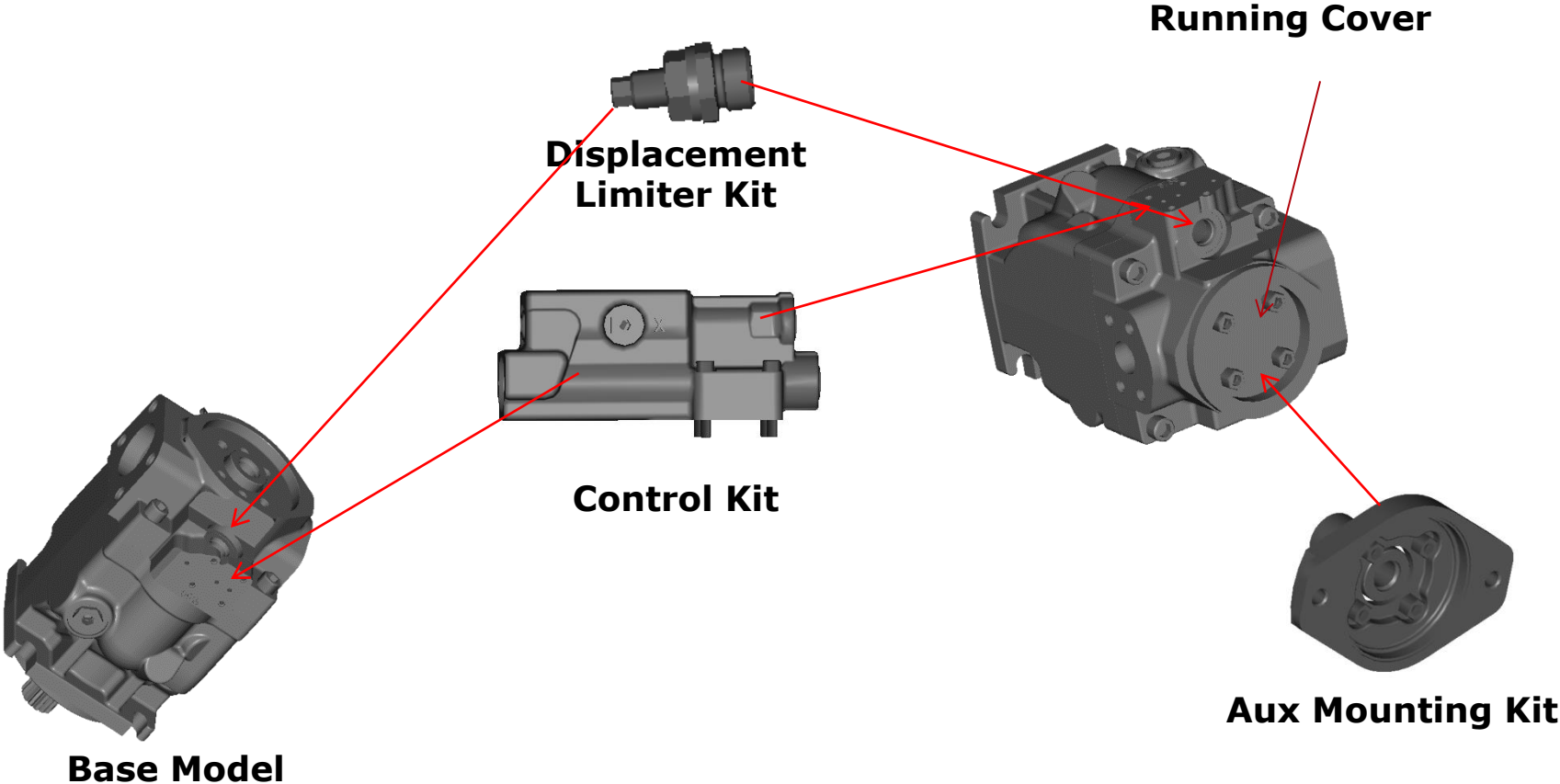


E-Frame 100-147cc



*Angle Sensor unit is needed for Electronic Torque Limiting Capability

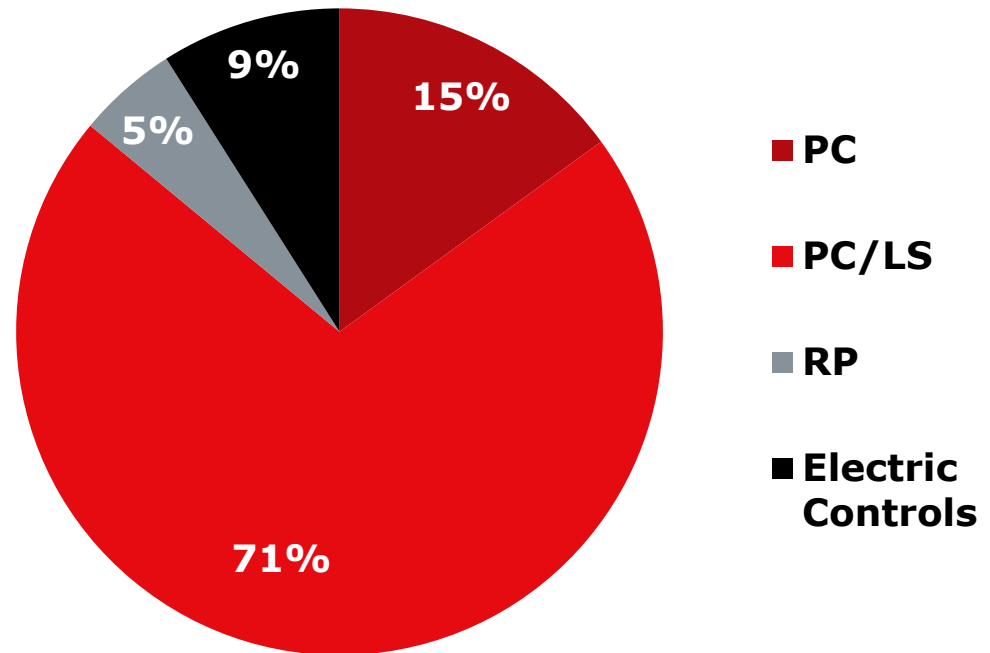
J, F and E-Frame Base Model



Current Control Mix by Percent Sold

Current Control Mix

- Mix of all products sold through distribution in 2014
- Electric Controls Include, On/Off, Dump, and EPC
- Electronic Torque Limiting was released April 1, 2015



S45 J-Frame pump

Technical Details - Master Model Code

Frame size/ Rotation/ Size & Life

- Frame size J
- Rotation direction
 - Clockwise or Anti-clockwise (seen from front)
 - L 28%
 - R 72%
- Size & Life
 - Displacement
 - Select large displacement and restrict displac. w. limiter
 - High pressure applications needs correct displacement

Order code

R	S	P	C	D	E	F	G	H	J	K	L	M	N
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Technical Details - Master Model Code

Control type

- Code describes
 - Control type
 - Solenoid position on pump
 - Solenoid type
 - Voltage 12v or 24v
 - Connector type
 - Normal position NO or NC

LB	2%	} LS
RP	7%	
LS	51%	
PC	17%	

- LB & RP can be made of LS with modification kit
- PC can be made from LS

AK 23% El. Prop.

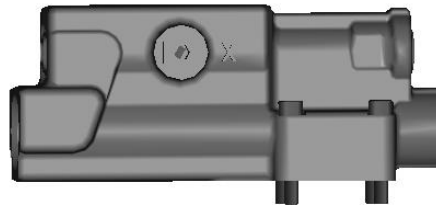
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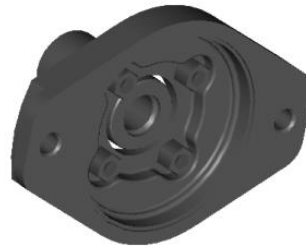
Conversion Components



**Displacement
Limiter Kit**



Control Kit



Aux Mounting Kit

Conversion Kits Available

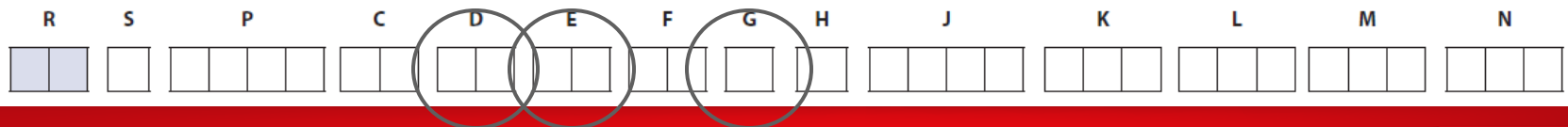
Part no.	Part	Description
4510422	Control Kits	"PC" PRESSURE COMPENSATED ONLY
4510444	Control kits	"LJ" Pressure compensated/ Load sensing control w/Metric x-port
11112205	Control kits	"LB" Pressure compensated/ Load sensing control w/Bleed orifice
11112208	Control Kits	"LS" PRESSURE COMPENSATED / LOAD SENSING
11112213	Control Kits	"RP" REMOTE PRESSURE COMPENSATION
11112218	Control kits	"AL" ELECTRONIC PROP. 24 VOLT, NC, CW Axial, CCW RADIAL
11112221	Control kits	"AH" ELECTRONIC PROP. 12 VOLT, NC, CW Axial, CCW RADIAL
11112291	Control Kits	"AK" ELECTRONIC PROP. 24 VOLT, NC, CCW AXIAL, CW RADIAL
11112301	Control Kits	"AV" ELECTRONIC PROP. 12 VOLT, NC, CCW Axial, CW RADIAL
11150230	Control kits	"TA" ELECTRONIC TORQUE LIMITING 12 VOLT, NC CW ONLY
11150231	Control kits	"TB" ELECTRONIC TORQUE LIMITING 24 VOLT, NC CW ONLY
11150237	Control kits	"TE" ELECTRONIC TORQUE LIMITING 12 VOLT, NC CWW ONLY
11150238	Control kits	"TF" ELECTRONIC TORQUE LIMITING 24 VOLT, NC CWW ONLY
4510375	Aux mount kit	9T SAE A flange auxiliary mount kit
4510377	Aux mount kit	13T SAE B flange auxiliary mount kit
4510379	Aux mount kit	15T SAE B-B flange auxiliary mount kit
4510381	Aux mount kit	14T SAE C flange auxiliary mount kit
4510484	Aux mount kit	11T SAE A flange auxiliary mount kit
11099076	Displacement limiter	Adjustable displacement limiter kit, delivered set to max flow
518215	Choke orifice	Choke orifice 1,0mm, M6 (Included With EPC's)
519659	Choke orifice	Orifice Plug 2,2mm, M6 (Included With EPC's)
739144	Choke orifice	Choke orifice 0,8mm, M6 (Included With EPC's)
11103473	Sealing kit	Overhaul seal kit frame J

Technical Details - Master Model Code

PC setting/ LS setting/ Choke

- PC-setting
 - 100bar - 310bar (displacement dependent)
 - Available in 10bar increments
 - Add high pressure range
- LS-setting
 - 10bar - 40bar (frame dependent)
 - Available in 1bar increments
- Optional choke
 - Smaller orifice size increases dampening
 - 0,8mm and 1,0mm available
 - Option "E" size 0.8mm recommended for fan-drive systems

Order code



Technical Details - Master Model Code

PC setting/ LS setting

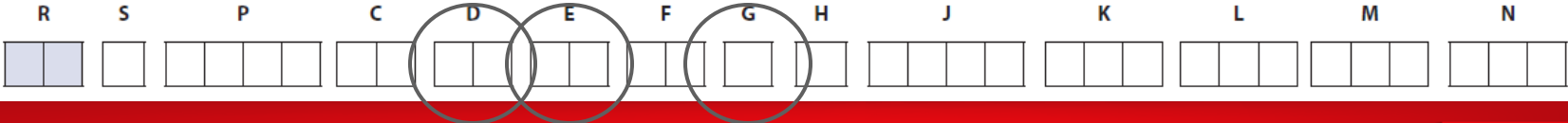
PC Pressure

100	1%
150	1%
160	18%
180	8%
190	10%
200	15%
210	42%
250	3%
260	2%

LS Pressure

10	29%
14	1%
15	31%
18	1%
20	32%
25	6%

Order code

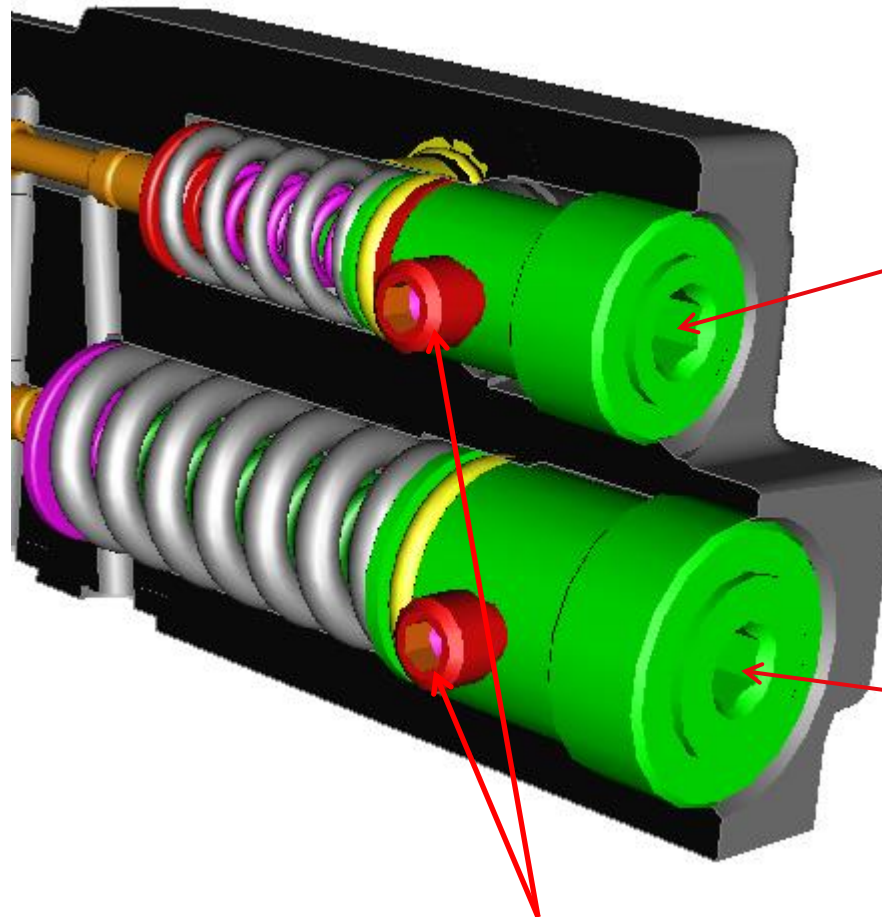


Control Adjustments

PC and LS adjustment

- LS function

- PC function



LS adjustment screw:
17.2 Bar/Turn
(standard spring set)

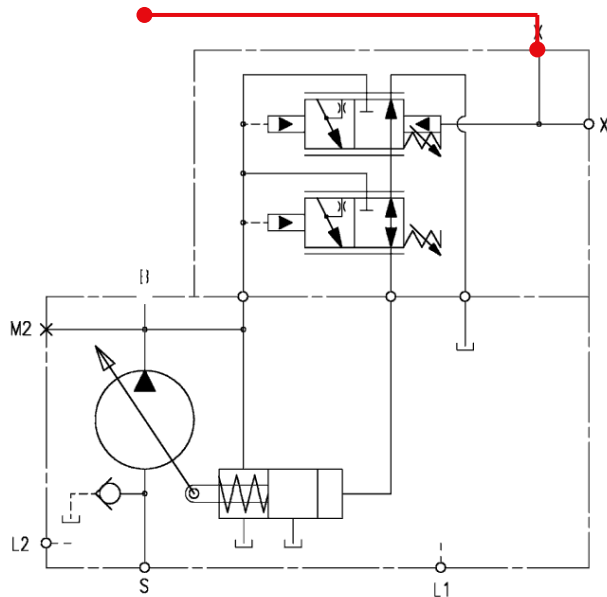
PC adjustment screw:
41.87 Bar/Turn
(standard spring set)

Note: Before adjustment release locking screws, hardware can look different

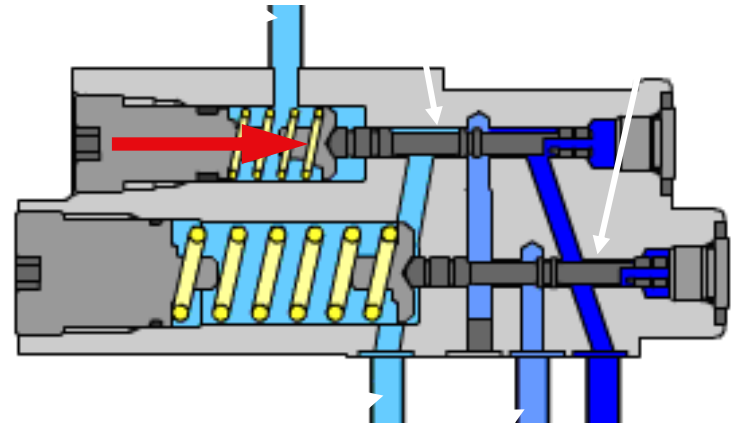
Control Adjustments

Conversion of different control types

- LS / PC → PC
- Block LS spool for conversion
- Hydraulically fixed spool
 - Connect X-port to system pressure



- Mechanically fixed spool
 - Screw adjustment plug fully in*
 - Or change spring to solid part**

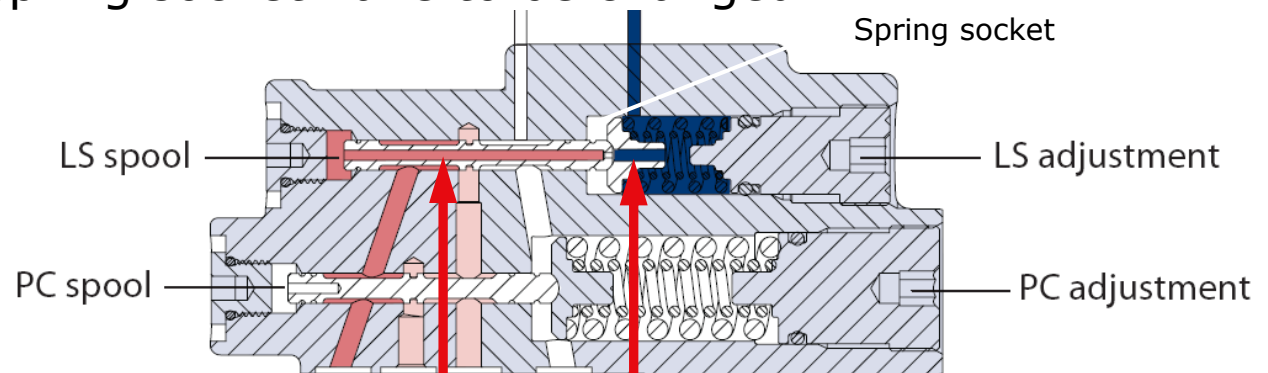


Control Adjustments

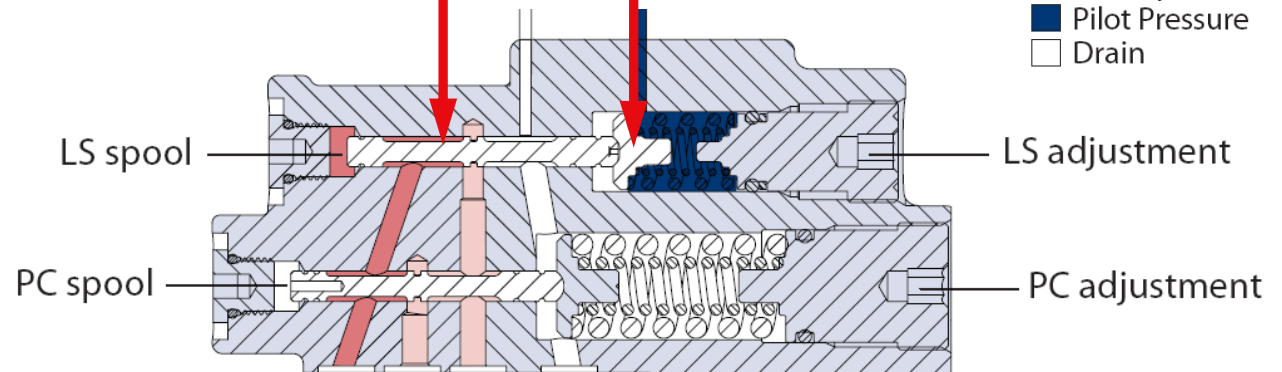
Conversion of different control types

- RPC → LS / PC
 - LS spool and spring socket have to be changed

■ RPC



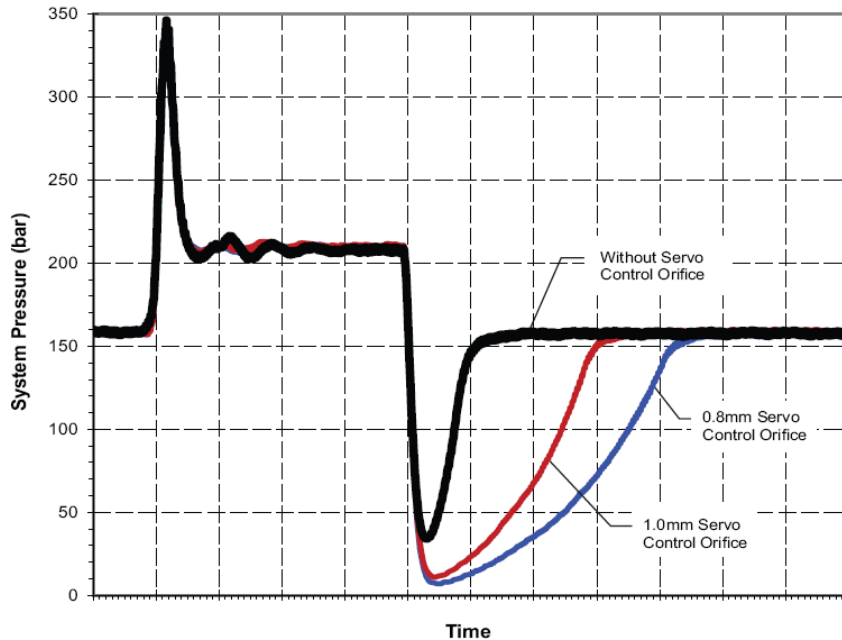
■ LS / PC



Technical Details - Master Model Code

Servo Control Orifice Performance

- PC Response and Recovery
 - Input Speed = 1800rpm
 - PC Setting=210Bar
 - LS Setting=20Bar

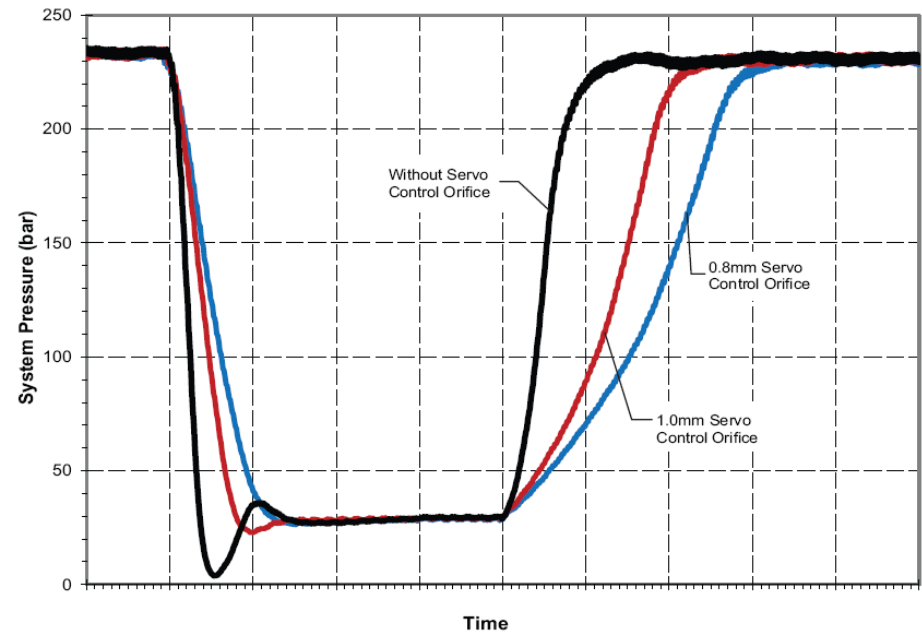


■ w/o Servo Control Orifice

■ 1mm Orifice

■ 0,8mm Orifice

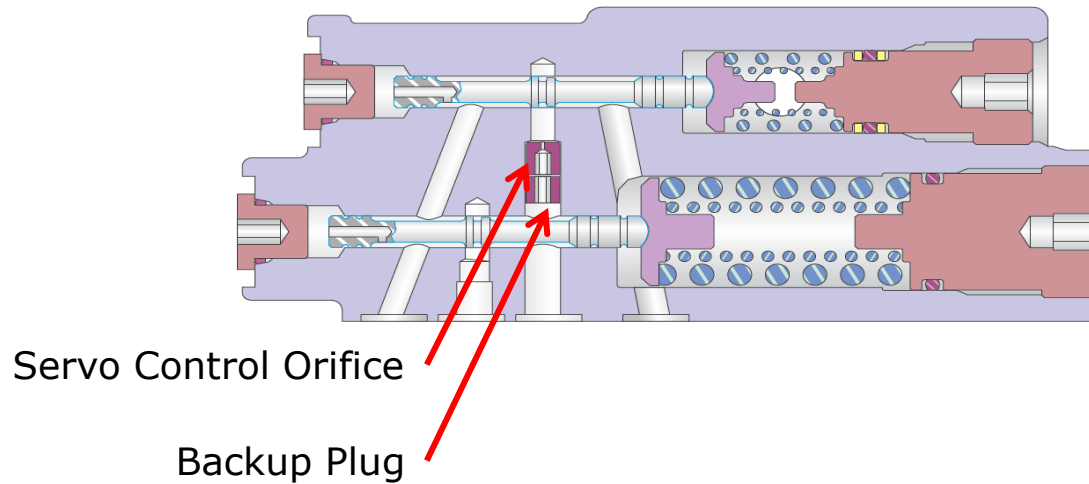
- LS Response and Recovery
 - Input Speed = 1800rpm
 - PC Setting = 310Bar
 - LS Setting = 30Bar



Technical Details - Master Model Code

Servo Control Orifice for PC control

- E/F/J frame use plug and backup plug orifice



Technical Details - Master Model Code

Input shaft

Code	Description	Frame				
		L	K	J	F	E
C2	13T 16/32 Pitch Spline	•	•	•		
C3	15T 16/32 Pitch Spline	•	•	•		
K1	0.875" Straight Key	•	•			
K2	0.875" Straight Key Long	•	•			
K4	1.25" Straight Key			•	•	
K5	1.5" Straight Key					•
S1	14T 12/24 Pitch Spline			•	•	•
S2	17T 12/24 Pitch Spline				•	•
S4	13T 8/16 Pitch Spline					•
T0	1.25" Taper			•		
T1	1.0" Taper	•	•			
T2	7/8" Taper	•				

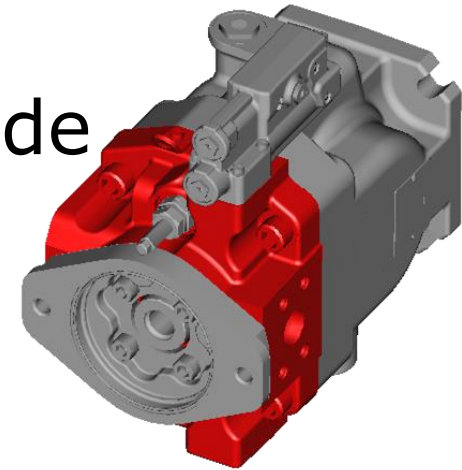
T0 2%
 C2 18%
 C3 31%
 K4 4%
 S1 45%

Order code

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Technical Details - Master Model Code

Endcap Style/Auxiliary Flange



Type	Split	Port	Port type	Thread	Flange	Teeth
NE	19,00%	RADIAL	SPLIT FLANGE	UNF	NONE	
NX	5,00%	RADIAL	SPLIT FLANGE	METRIC	NONE	
RE	9,00%	RADIAL	SPLIT FLANGE	UNF	R. COVER	
RF	8,00%	RADIAL	SPLIT FLANGE	UNF	R. COVER	
AE	5,00%	RADIAL	SPLIT FLANGE	UNF	SAE-A	9-TEETH
AF	3,00%	RADIAL	SPLIT FLANGE	UNF	SAE-A	9-TEETH
AX	2,00%	RADIAL	SPLIT FLANGE	METRIC	SAE-A	9-TEETH
AY	5,00%	RADIAL	SPLIT FLANGE	UNF	SAE-A, INTEG.	9-TEETH
TE	3,00%	RADIAL	SPLIT FLANGE	UNF	SAE-A	11-TEETH
TY	9,00%	RADIAL	SPLIT FLANGE	UNF	SAE-A, INTEG.	11-TEETH
BE	15,00%	RADIAL	SPLIT FLANGE	UNF	SAE-B	13-TEETH
BF	3,00%	RADIAL	SPLIT FLANGE	UNF	SAE-B	13-TEETH
BX	6,00%	RADIAL	SPLIT FLANGE	METRIC	SAE-B	13-TEETH
CE	2,00%	RADIAL	SPLIT FLANGE	UNF	SAE-C	14 TEETH
CX	2,00%	RADIAL	SPLIT FLANGE	METRIC	SAE-C	14 TEETH
VE	4,00%	RADIAL	SPLIT FLANGE	UNF	SAE-BB	15 TEETH

Order code

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Technical Details - Master Model Code

Shaft seal/ Front Flange

Shaft seal (A) VITON 100%

Code	Description	Frame				
		L	K	J	F	E
BN	SAE-B, 2-Bolt Flange, Dual Shaft Seal			•		
DN	SAE-C, 4-Bolt Flange, Dual Shaft Seal			•		
1N	SAE-C, 4-Bolt Flange				•	•
2N	SAE-C, 4-Bolt Flange			•		
3N	SAE-B, 2-Bolt Flange				•	
6N	SAE-B, 2-Bolt Flange	•	•			
8N	SAE-B, 2-Bolt Flange			•		
9N	SAE-C, 2-Bolt Flange			•		

2N 37%
 8N 52%
 9N 11%

Order code

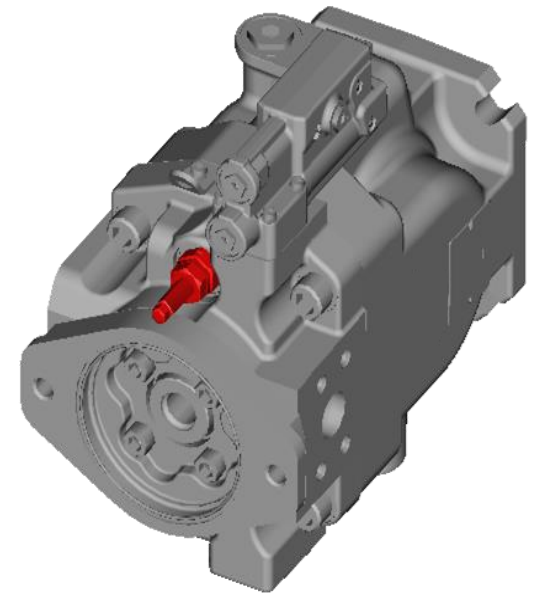
Note: Double seal needs to be specified from factory

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Technical Details - Master Model Code

Displacement Limiter

- Maximum Displacement Limiters are available
- Adjustable setting
- Set to max flow from factory
- Limiter range depending on frame and displacement
 - Range and displacement per limiter screw turn are shown in the Technical Information (520L0519)



Order code

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Technical Details - Master Model Code

Angle sensor

- ANS is the code for the production built in angle sensor
 - Interfacing achieved through 4-pin Deutsch DTM04-4P plug attached to flexible cable connector IP67/ IP69K compatibility
 - Angle Sensor is a standalone can be configured in a wide variety of features and controls
 - PLUS+1 Compliant function block
 - Impact protected and 5VDC supply voltage
 - Dual Voltage Output – primary and secondary signal
 - Ambient (oil) temperature:
 - -40°C to +104°C
- NNN means housing is not prepared or do not contain



Order code

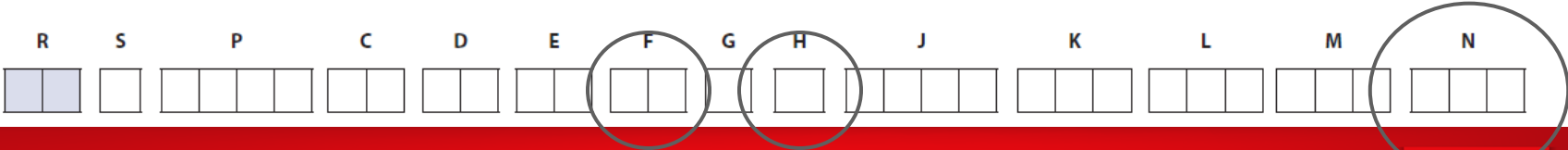
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Technical Details - Master Model Code

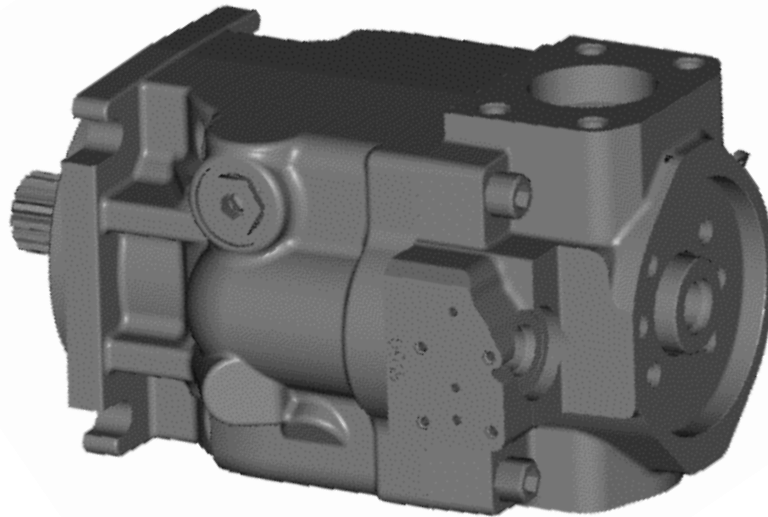
Others

- Not in use or Internal use

Order code



Base Model Pumps



Base Model Pumps

J-Frame	Material	Nomenclature
Base Models	83038638	JR-L-S60B-NN-NN-NN-NN-N-N-C3NZ-A8N-PLB-JJJ-P00
Base Models	83038639	JR-L-S60B-NN-NN-NN-NN-N-N-C3RF-A8N-PLB-JJJ-P00
Base Models	83038640	JR-L-S60B-NN-NN-NN-NN-N-N-S1NZ-A2N-PLB-JJJ-P00
Base Models	83038641	JR-L-S60B-NN-NN-NN-NN-N-N-S1RF-A2N-PLB-JJJ-P00
Base Models	83040897	JR-L-S60B-NN-NN-NN-NN-N-N-S1RF-A2R-PLB-ANS-P00
Base Models	83040902	JR-L-S60B-NN-NN-NN-NN-N-N-C2NZ-A8N-PLB-JJJ-P00
Base Models	83038652	JR-L-S75C-NN-NN-NN-NN-N-N-C3NZ-A8N-PLB-JJJ-P00
Base Models	83038653	JR-L-S75C-NN-NN-NN-NN-N-N-C3RF-A8N-PLB-JJJ-P00
Base Models	83038654	JR-L-S75C-NN-NN-NN-NN-N-N-S1NZ-A2N-PLB-JJJ-P00
Base Models	83038655	JR-L-S75C-NN-NN-NN-NN-N-N-S1RF-A2N-PLB-JJJ-P00
Base Models	83040898	JR-L-S75C-NN-NN-NN-NN-N-N-S1RF-A2R-PLB-ANS-P00
Base Models	83038656	JR-R-S60B-NN-NN-NN-NN-N-N-C3NZ-A8N-PLB-JJJ-P00
Base Models	83038657	JR-R-S60B-NN-NN-NN-NN-N-N-C3RF-A8N-PLB-JJJ-P00
Base Models	83038658	JR-R-S60B-NN-NN-NN-NN-N-N-S1NZ-A2N-PLB-JJJ-P00
Base Models	83038659	JR-R-S60B-NN-NN-NN-NN-N-N-S1RF-A2N-PLB-JJJ-P00
Base Models	83040899	JR-R-S60B-NN-NN-NN-NN-N-N-S1RF-A2R-PLB-ANS-P00
Base Models	83040901	JR-R-S60B-NN-NN-NN-NN-N-N-C2NZ-A8N-PLB-JJJ-P00
Base Models	83038660	JR-R-S75C-NN-NN-NN-NN-N-N-C3NZ-A8N-PLB-JJJ-P00
Base Models	83038661	JR-R-S75C-NN-NN-NN-NN-N-N-C3RF-A8N-PLB-JJJ-P00
Base Models	83038662	JR-R-S75C-NN-NN-NN-NN-N-N-S1NZ-A2N-PLB-JJJ-P00
Base Models	83038663	JR-R-S75C-NN-NN-NN-NN-N-N-S1RF-A2N-PLB-JJJ-P00
Base Models	83040900	JR-R-S75C-NN-NN-NN-NN-N-N-S1RF-A2R-PLB-ANS-P00

S45 F-Frame pump

Technical Details - Master Model Code

Frame size/ Rotation/ Size & Life

- Frame size F
- Rotation direction
 - Clockwise or Anti-clockwise (seen from front)
 - L 33%
 - R 67%
- Size & Life
 - Displacement
 - Select large displacement and restrict displac. w. limiter
 - High pressure applications needs correct displacement

Order code

R	S	P	C	D	E	F	G	H	J	K	L	M	N
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Technical Details - Master Model Code

Control type

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 - Voltage 12v or 24v
 - Connector type
 - Normal position NO or NC

LB	2%	} LS
RP	7%	
LS	51%	
PC	17%	

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EJ 23% El. Prop.

Order code

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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

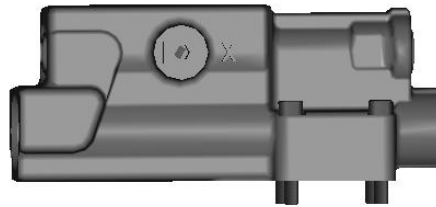
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11106335	Sealing kit	Overhaul seal kit frame F

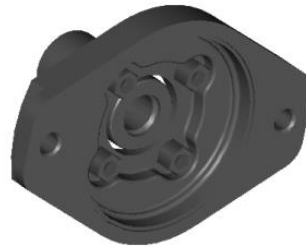
Conversion Components



**Displacement
Limiter Kit**



Control Kit



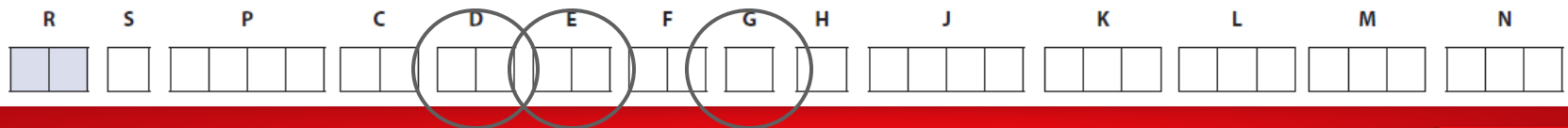
Aux Mounting Kit

Technical Details - Master Model Code

PC setting/ LS setting/ Choke

- PC-setting
 - 100bar - 310bar (displacement dependent)
 - Available in 10bar increments
 - Add high pressure range
- LS-setting
 - 10bar - 40bar (frame dependent)
 - Available in 1bar increments
- Optional choke
 - Smaller orifice size increases dampening
 - 0,8mm and 1,0mm available
 - Option "E" size 0.8mm recommended for fan-drive systems

Order code



Technical Details - Master Model Code

PC setting/ LS setting

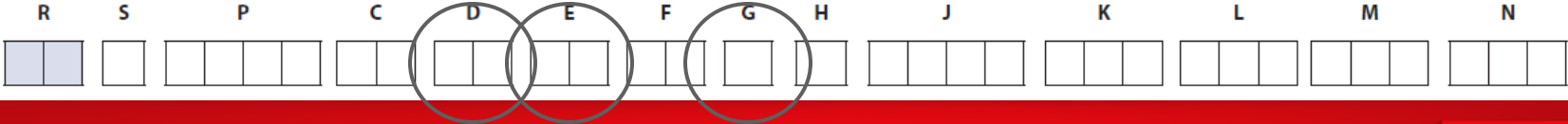
PC Pressure

100	1%
150	1%
160	18%
180	8%
190	10%
200	15%
210	42%
250	3%
260	2%

LS Pressure

10	29%
14	1%
15	31%
18	1%
20	32%
25	6%

Order code

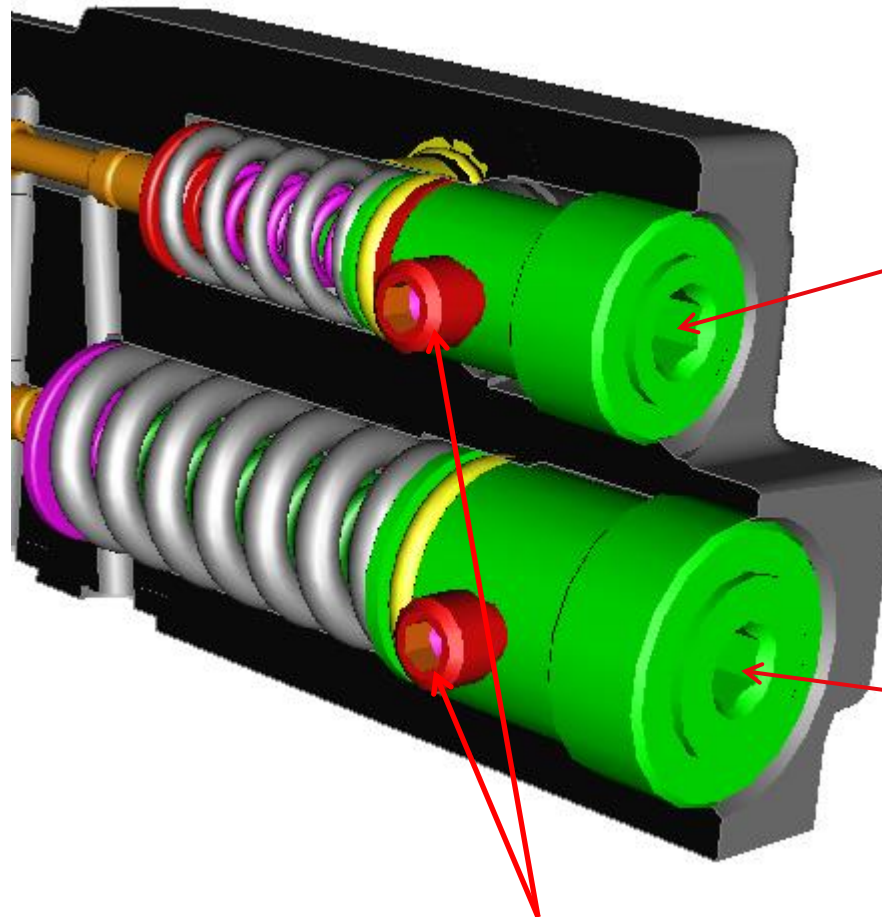


Control Adjustments

PC and LS adjustment

- LS function

- PC function



LS adjustment screw:
17.2 Bar/Turn
(standard spring set)

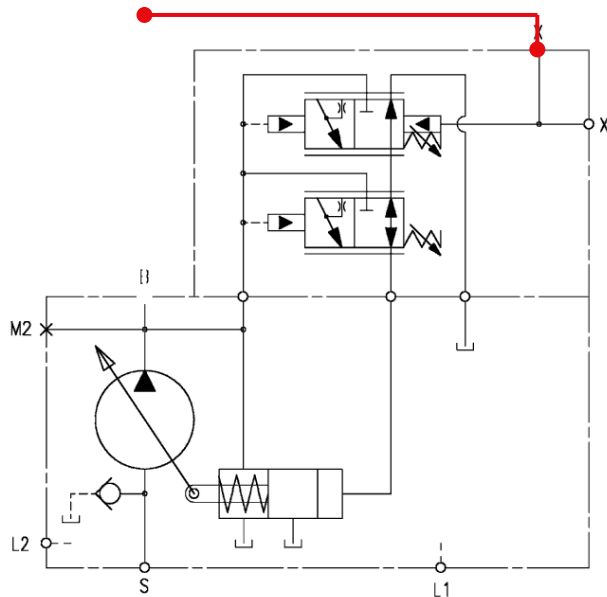
PC adjustment screw:
41.87 Bar/Turn
(standard spring set)

Note: Before adjustment release locking screws, hardware can look different

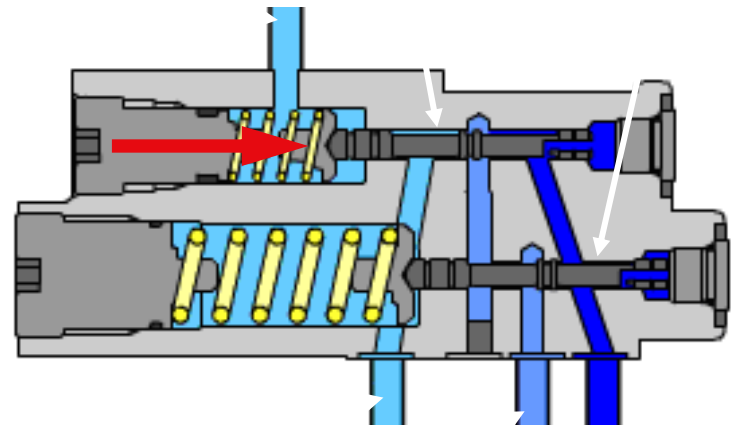
Control Adjustments

Conversion of different control types

- LS / PC → PC
 - Block LS spool for conversion
- Hydraulically fixed spool
 - Connect X-port to system pressure



- Mechanically fixed spool
 - Screw adjustment plug fully in*
 - Or change spring to solid part**

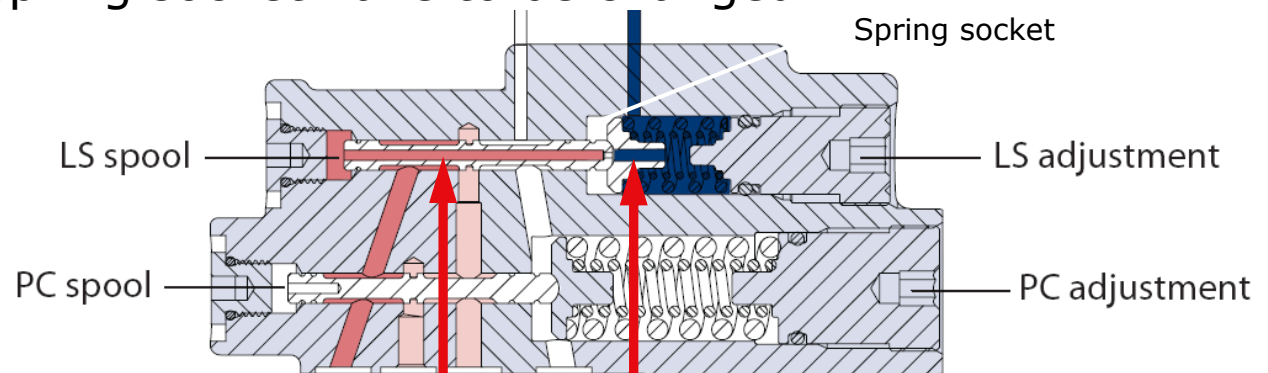


Control Adjustments

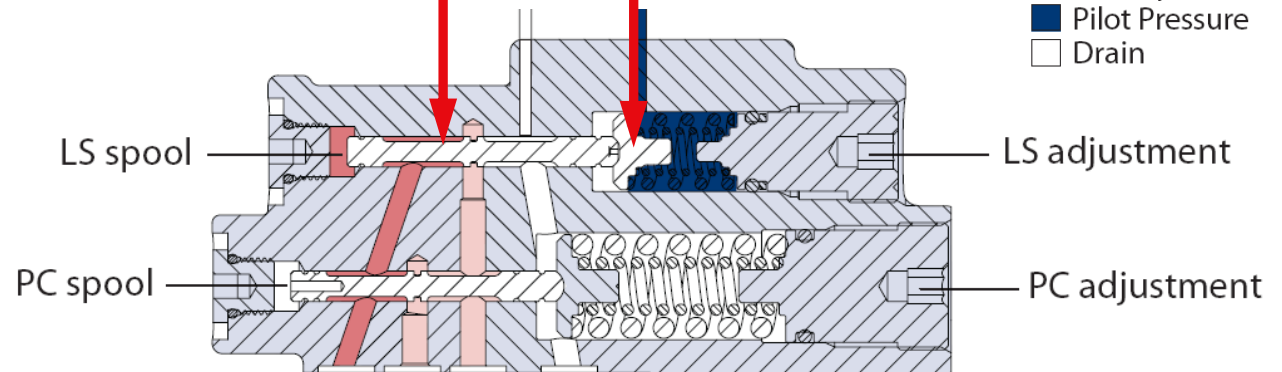
Conversion of different control types

- RPC → LS / PC
 - LS spool and spring socket have to be changed

■ RPC



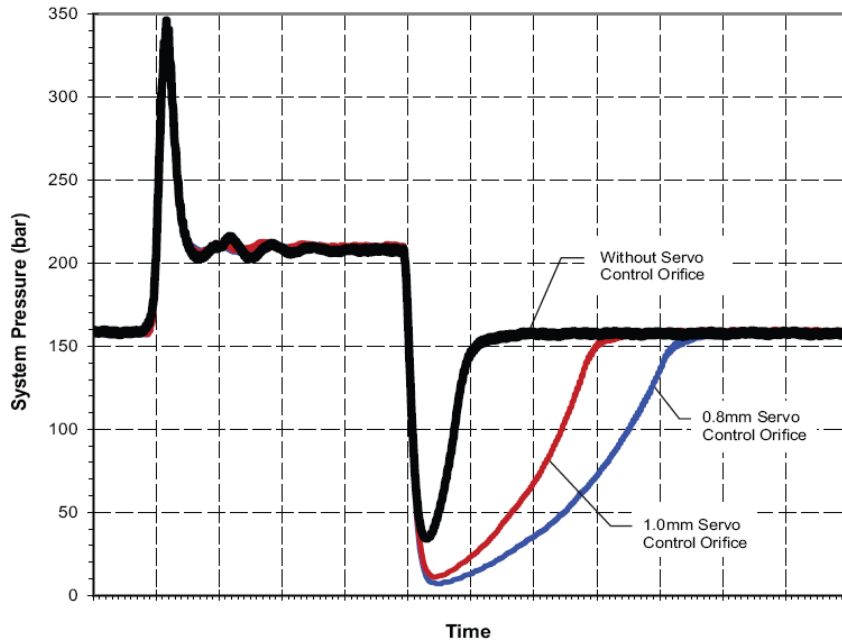
■ LS / PC



Technical Details - Master Model Code

Servo Control Orifice Performance

- PC Response and Recovery
 - Input Speed = 1800rpm
 - PC Setting=210Bar
 - LS Setting=20Bar

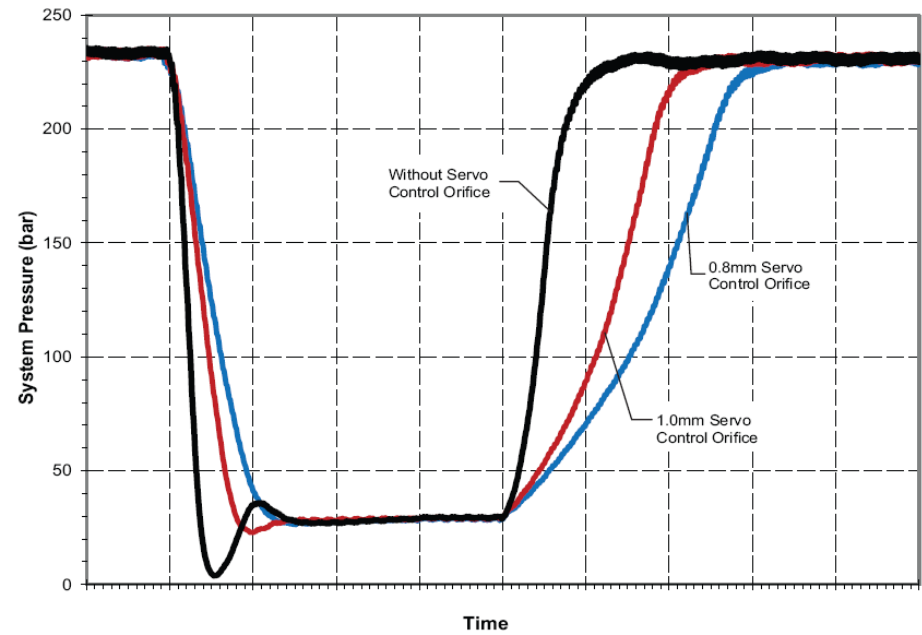


■ w/o Servo Control Orifice

■ 1mm Orifice

■ 0,8mm Orifice

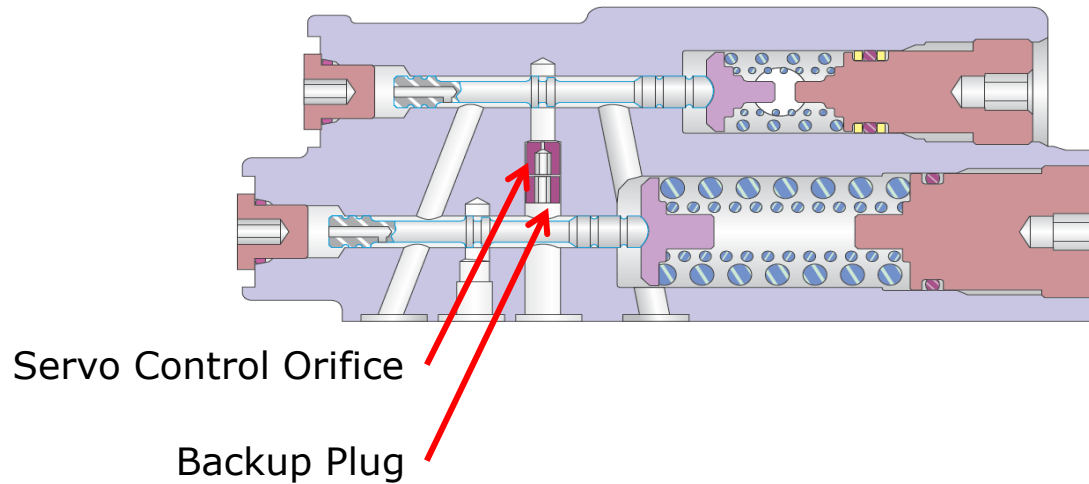
- LS Response and Recovery
 - Input Speed = 1800rpm
 - PC Setting = 310Bar
 - LS Setting = 30Bar



Technical Details - Master Model Code

Servo Control Orifice for PC control

- E/F/J frame use plug and backup plug orifice



Technical Details - Master Model Code

Input shaft

Code	Description	Frame				
		L	K	J	F	E
C2	13T 16/32 Pitch Spline	•	•	•		
C3	15T 16/32 Pitch Spline	•	•	•		
K1	0.875" Straight Key	•	•			
K2	0.875" Straight Key Long	•	•			
K4	1.25" Straight Key			•	•	
K5	1.5" Straight Key					•
S1	14T 12/24 Pitch Spline			•	•	•
S2	17T 12/24 Pitch Spline				•	•
S4	13T 8/16 Pitch Spline					•
T0	1.25" Taper			•		
T1	1.0" Taper	•	•			
T2	7/8" Taper	•				

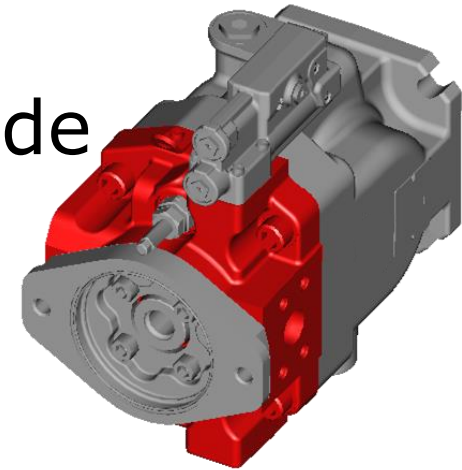
K4 91%
 S1 7%
 S2 2%

Order code

R S P C D E F G H J K L M N

Technical Details - Master Model Code

Endcap Style/Auxiliary Flange



Type	Split	Port	Port type	Thread	Flange	Teeth
N4	5,4%	AXIAL	SPLIT FLANGE	UNF	NONE	
N2	31,3%	RADIAL	SPLIT FLANGE	UNF	NONE	
R2	5,1%	RADIAL	SPLIT FLANGE	UNF	R.COVER	
A2	3,5%	RADIAL	SPLIT FLANGE	UNF	SAE-A	9T
B2	9,1%	RADIAL	SPLIT FLANGE	UNF	SAE-B	13T
C2	41,7%	RADIAL	SPLIT FLANGE	UNF	SAE-C	14T
V2	3,9%	RADIAL	SPLIT FLANGE	UNF	SAE-BB	15T

Order code

R	S	P	C	D	E	F	G	H	J	K	L	M	N
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Technical Details - Master Model Code

Shaft seal/ Front Flange

Shaft seal (A) VITON 100%

Code	Description	Frame				
		L	K	J	F	E
BN	SAE-B, 2-Bolt Flange, Dual Shaft Seal			•		
DN	SAE-C, 4-Bolt Flange, Dual Shaft Seal			•		
1N	SAE-C, 4-Bolt Flange			•	•	
2N	SAE-C, 4-Bolt Flange			•		
3N	SAE-B, 2-Bolt Flange				•	
6N	SAE-B, 2-Bolt Flange	•	•			
8N	SAE-B, 2-Bolt Flange			•		
9N	SAE-C, 2-Bolt Flange			•		

100%

Order code

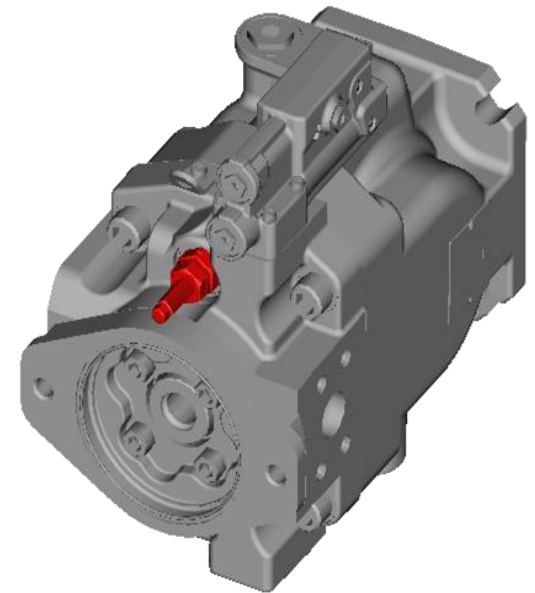
Note: Double seal needs to be specified from factory

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Technical Details - Master Model Code

Displacement Limiter

- Maximum Displacement Limiters are available
- Adjustable setting
- Set to max flow from factory
- Limiter range depending on frame and displacement
 - Range and displacement per limiter screw turn are shown in the Technical Information (520L0519)



Order code

R	S	P	C	D	E	F	G	H	J	K	L	M	N
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Technical Details - Master Model Code

Angle sensor

- ANS is the code for the production built in angle sensor
 - Interfacing achieved through 4-pin Deutsch DTM04-4P plug attached to flexible cable connector IP67/ IP69K compatibility
 - Angle Sensor is a standalone can be configured in a wide variety of features and controls
 - PLUS+1 Compliant function block
 - Impact protected and 5VDC supply voltage
 - Dual Voltage Output – primary and secondary signal
 - Ambient (oil) temperature:
 - -40°C to +104°C
- NNN means housing is not prepared or do not contain



Order code

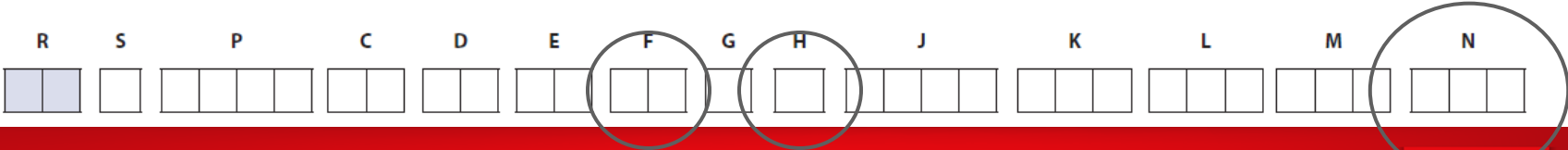
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Technical Details - Master Model Code

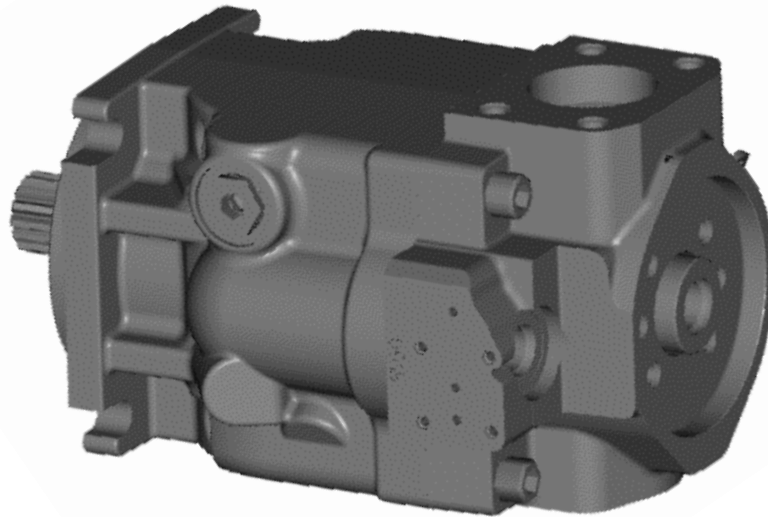
Others

- Not in use or Internal use

Order code



Base Model Pumps



Base models

F-Frame	Material	Nomenclature
Base Models	83041458	FR-L-090C-NN-NN-NN-NN-N-N-S1N4-A1N-NNN-NNN-P00
Base Models	83041459	FR-L-090C-NN-NN-NN-NN-N-N-S1R2-A1N-NNN-NNN-P00
Base Models	83041460	FR-L-090C-NN-NN-NN-NN-N-N-S1R2-A1R-NNN-ANS-P00
Base Models	83041461	FR-R-090C-NN-NN-NN-NN-N-N-S1N4-A1N-NNN-NNN-P00
Base Models	83041472	FR-R-090C-NN-NN-NN-NN-N-N-S1R2-A1N-NNN-NNN-P00
Base Models	83041473	FR-R-090C-NN-NN-NN-NN-N-N-S1R2-A1R-NNN-ANS-P00
Base Models	83041474	FR-L-074B-NN-NN-NN-NN-N-N-S1N4-A1N-NNN-NNN-P00
Base Models	83041475	FR-L-074B-NN-NN-NN-NN-N-N-S1R2-A1N-NNN-NNN-P00
Base Models	83041476	FR-L-074B-NN-NN-NN-NN-N-N-S1R2-A1R-NNN-ANS-P00
Base Models	83041477	FR-R-074B-NN-NN-NN-NN-N-N-S1N4-A1N-NNN-NNN-P00
Base Models	83041478	FR-R-074B-NN-NN-NN-NN-N-N-S1R2-A1N-NNN-NNN-P00
Base Models	83041479	FR-R-074B-NN-NN-NN-NN-N-N-S1R2-A1R-NNN-ANS-P00

S45 E-Frame pump

Technical Details - Master Model Code

Frame size/ Rotation/ Size & Life

- Frame size E
- Rotation direction
 - Clockwise or Anti-clockwise (seen from front)
 - L 30%
 - R 70%
- Size & Life
 - Displacement
 - Select large displacement and restrict displac. w. limiter
 - High pressure applications needs correct displacement

Order code

R	S	P	C	D	E	F	G	H	J	K	L	M	N
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Technical Details - Master Model Code

Control type

- Code describes
 - Control type
 - Solenoid position on pump
 - Solenoid type
 - Voltage 12v or 24v
 - Connector type
 - Normal position NO or NC

LB	2%	} LS
RP	7%	
LS	51%	
PC	17%	

- LB & RP can be made of LS with modification kit
- PC can be made from LS

EJ 23% El. Prop.

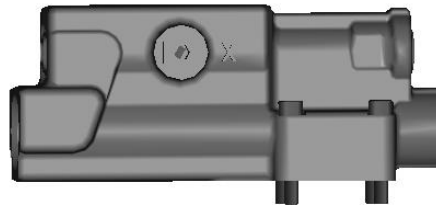
Order code

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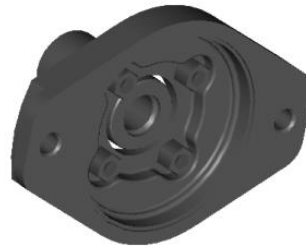
Conversion Components



**Displacement
Limiter Kit**



Control Kit



Aux Mounting Kit

Conversion Kits Available

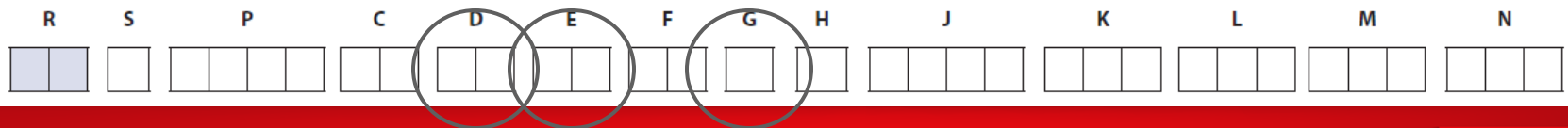
Part no.	Part	Description
4510422	Control Kits	"PC" PRESSURE COMPENSATED ONLY
4510444	Control kits	"LJ" Pressure compensated/ Load sensing control w/Metric x-port
11112205	Control kits	Pressure compensated/ Load sensing control w/Bleed orifice
11112208	Control Kits	"LS" PRESSURE COMPENSATED / LOAD SENSING
11112213	Control Kits	"RP" REMOTE PRESSURE COMPENSATION
11112218	Control kits	"AL" ELECTRONIC PROP. 24 VOLT, NC, CW Axial, CCW RADIAL
11112221	Control kits	"AH" ELECTRONIC PROP. 12 VOLT, NC, CW Axial, CCW RADIAL
11112291	Control Kits	"AK" ELECTRONIC PROP. 24 VOLT, NC, CCW AXIAL, CW RADIAL
11112301	Control Kits	"AV" ELECTRONIC PROP. 12 VOLT, NC, CCW Axial, CW RADIAL
11150230	Control kits	"TA" ELECTRONIC TORQUE LIMITING 12 VOLT, NC CW ONLY
11150231	Control kits	"TB" ELECTRONIC TORQUE LIMITING 24 VOLT, NC CW ONLY
11150237	Control kits	"TE" ELECTRONIC TORQUE LIMITING 12 VOLT, NC CWW ONLY
11150238	Control kits	"TF" ELECTRONIC TORQUE LIMITING 24 VOLT, NC CWW ONLY
4510429	Aux mount kit	13T SAE B flange auxiliary mount kit
4510430	Aux mount kit	15T SAE B-B flange auxiliary mount kit
4510432	Aux mount kit	14T SAE C flange auxiliary mount kit
11099077	Displacement limiter	Adjustable displacement limiter kit, delivered set to max flow
518215	Choke orifice	Choke orifice 1,0mm, M6 (Included With EPC's)
519659	Choke orifice	Orifice Plug 2,2mm, M6 (Included With EPC's)
739144	Choke orifice	Choke orifice 0,8mm, M6 (Included With EPC's)
11106334	Sealing kit	Overhaul seal kit frame E

Technical Details - Master Model Code

PC setting/ LS setting/ Choke

- PC-setting
 - 100bar - 310bar (displacement dependent)
 - Available in 10bar increments
 - Add high pressure range
- LS-setting
 - 10bar - 40bar (frame dependent)
 - Available in 1bar increments
- Optional choke
 - Smaller orifice size increases dampening
 - 0,8mm and 1,0mm available
 - Option "E" size 0.8mm recommended for fan-drive systems

Order code



Technical Details - Master Model Code

PC setting/ LS setting

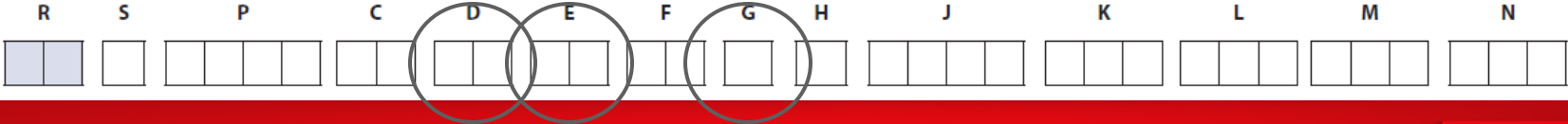
PC Pressure

100	1%
150	1%
160	18%
180	8%
190	10%
200	15%
210	42%
250	3%
260	2%

LS Pressure

10	29%
14	1%
15	31%
18	1%
20	32%
25	6%

Order code

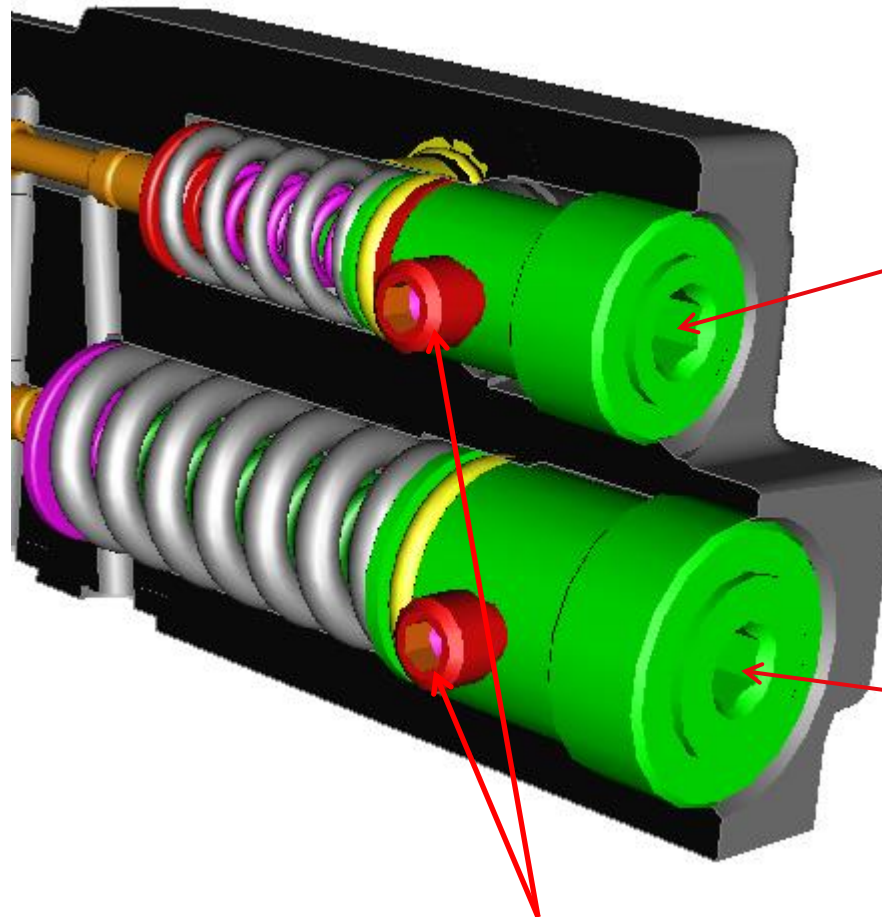


Control Adjustments

PC and LS adjustment

- LS function

- PC function



LS adjustment screw:
17.2 Bar/Turn
(standard spring set)

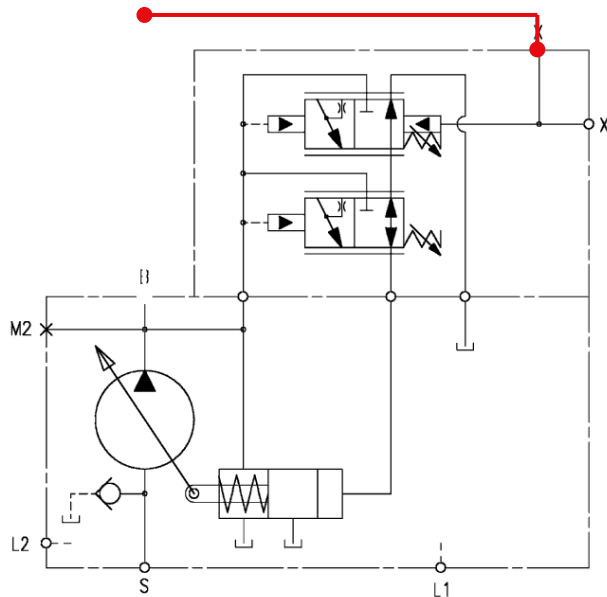
PC adjustment screw:
41.87 Bar/Turn
(standard spring set)

Note: Before adjustment release locking screws, hardware can look different

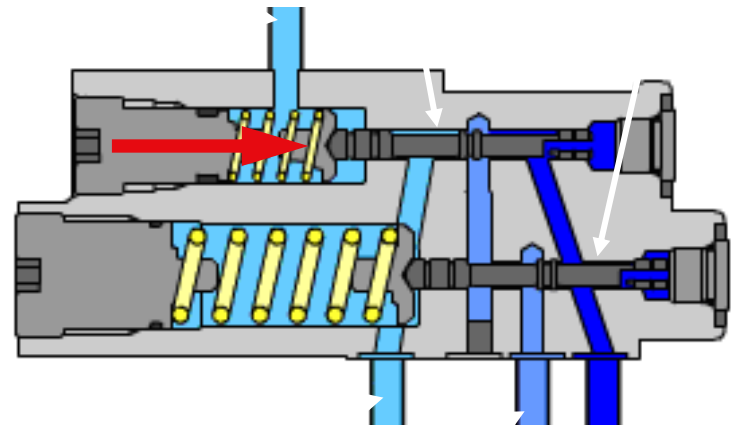
Control Adjustments

Conversion of different control types

- LS / PC → PC
- Block LS spool for conversion
- Hydraulically fixed spool
 - Connect X-port to system pressure



- Mechanically fixed spool
 - Screw adjustment plug fully in*
 - Or change spring to solid part**

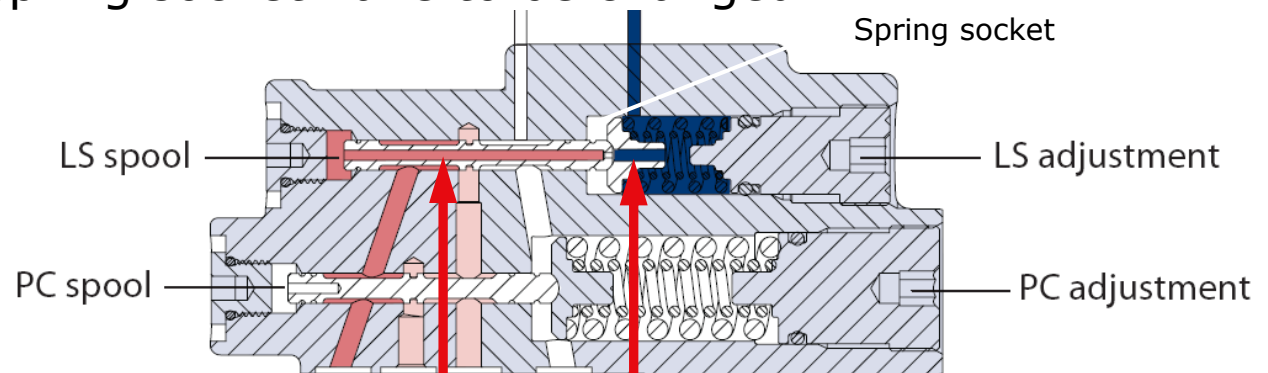


Control Adjustments

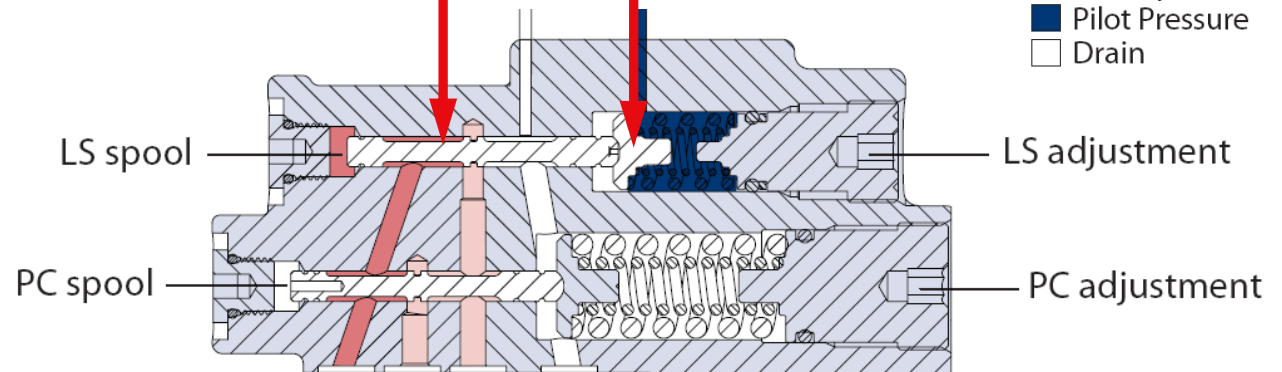
Conversion of different control types

- RPC → LS / PC
 - LS spool and spring socket have to be changed

■ RPC



■ LS / PC

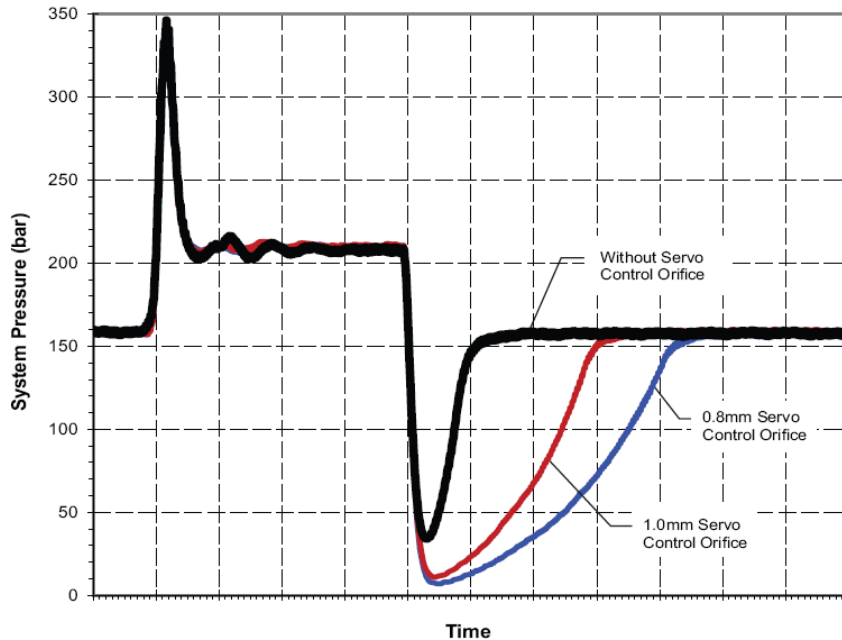


- System pressure
- Servo pressure
- Pilot Pressure
- Drain

Technical Details - Master Model Code

Servo Control Orifice Performance

- PC Response and Recovery
 - Input Speed = 1800rpm
 - PC Setting=210Bar
 - LS Setting=20Bar

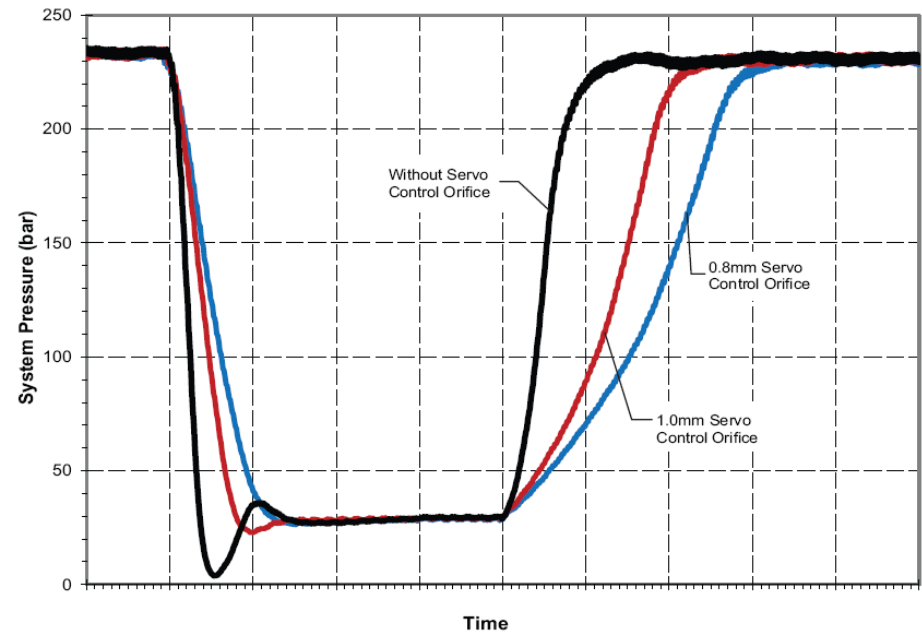


■ w/o Servo Control Orifice

■ 1mm Orifice

■ 0,8mm Orifice

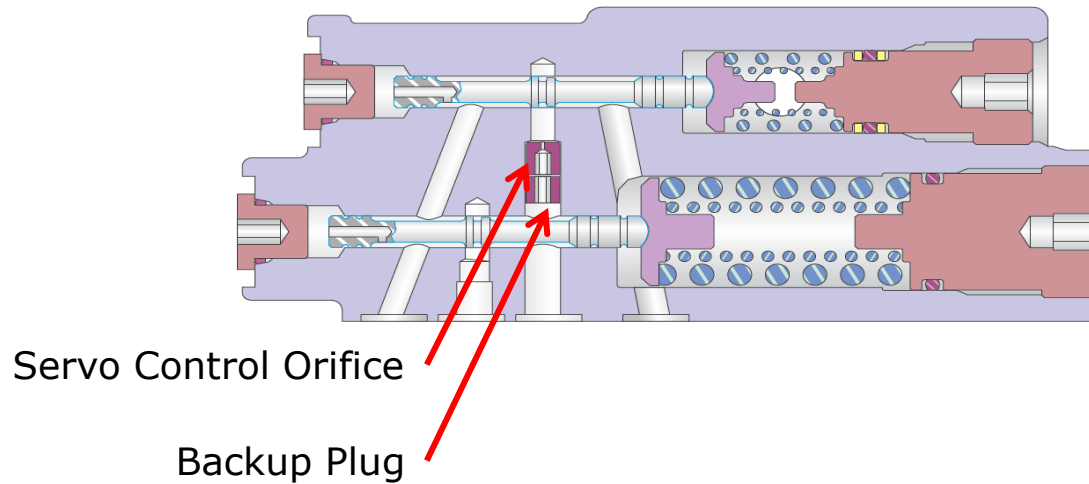
- LS Response and Recovery
 - Input Speed = 1800rpm
 - PC Setting = 310Bar
 - LS Setting = 30Bar



Technical Details - Master Model Code

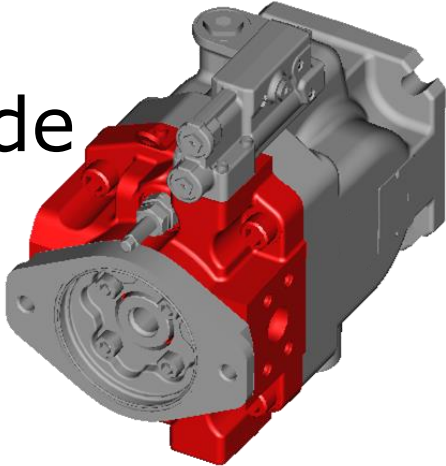
Servo Control Orifice for PC control

- E/F/J frame use plug and backup plug orifice



Technical Details - Master Model Code

Endcap Style/Auxiliary Flange



Type	Split	Port	Port type	Thread	Flange	Teeth
NL	17,4%	AXIAL	SPLIT FLANGE	UNF		
AP	1,6%	RADIAL	SPLIT FLANGE	UNF	SAE-A	9T
BP	18,3%	RADIAL	SPLIT FLANGE	UNF	SAE-B	13T
CP	4,9%	RADIAL	SPLIT FLANGE	UNF	SAE-C	14T
RP	39,0%	RADIAL	SPLIT FLANGE	UNF	R. COVER	
NP	18,7%	RADIAL	SPLIT FLANGE	UNF	NONE	

Order code

R
S
P
C
D
E
F
G
H
J
K
L
M
N

Technical Details - Master Model Code

Shaft seal/ Front Flange

Shaft seal (A) VITON 100%

Code	Description	Frame				
		L	K	J	F	E
BN	SAE-B, 2-Bolt Flange, Dual Shaft Seal			•		
DN	SAE-C, 4-Bolt Flange, Dual Shaft Seal			•		
1N	SAE-C, 4-Bolt Flange				•	•
2N	SAE-C, 4-Bolt Flange			•		
3N	SAE-B, 2-Bolt Flange				•	
6N	SAE-B, 2-Bolt Flange	•	•			
8N	SAE-B, 2-Bolt Flange			•		
9N	SAE-C, 2-Bolt Flange			•		

100%

Order code

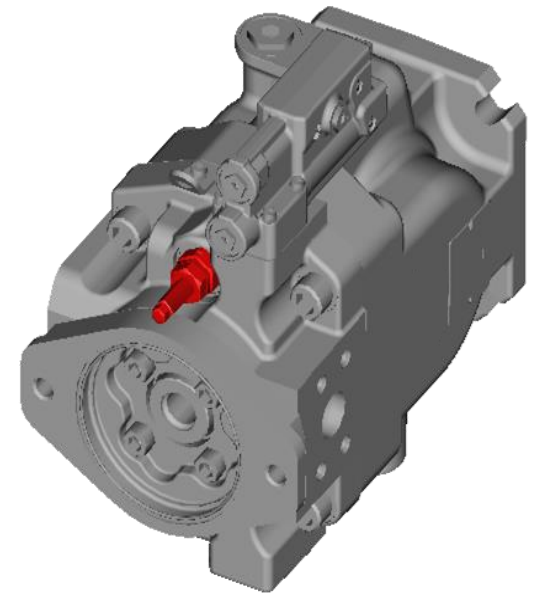
Note: Double seal needs to be specified from factory

R	S	P	C	D	E	F	G	H	J	K	L	M	N
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Technical Details - Master Model Code

Displacement Limiter

- Maximum Displacement Limiters are available
- Adjustable setting
- Set to max flow from factory
- Limiter range depending on frame and displacement
 - Range and displacement per limiter screw turn are shown in the Technical Information (520L0519)



Order code

R	S	P	C	D	E	F	G	H	J	K	L	M	N
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Technical Details - Master Model Code

Angle sensor

- ANS is the code for the production built in angle sensor
 - Interfacing achieved through 4-pin Deutsch DTM04-4P plug attached to flexible cable connector IP67/ IP69K compatibility
 - Angle Sensor is a standalone can be configured in a wide variety of features and controls
 - PLUS+1 Compliant function block
 - Impact protected and 5VDC supply voltage
 - Dual Voltage Output – primary and secondary signal
 - Ambient (oil) temperature:
 - -40°C to +104°C
- NNN means housing is not prepared or do not contain



Order code

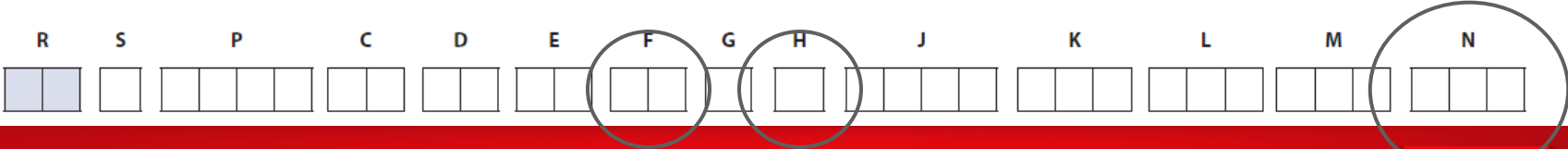
R	S	P	C	D	E	F	G	H	J	K	L	M	N
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Technical Details - Master Model Code

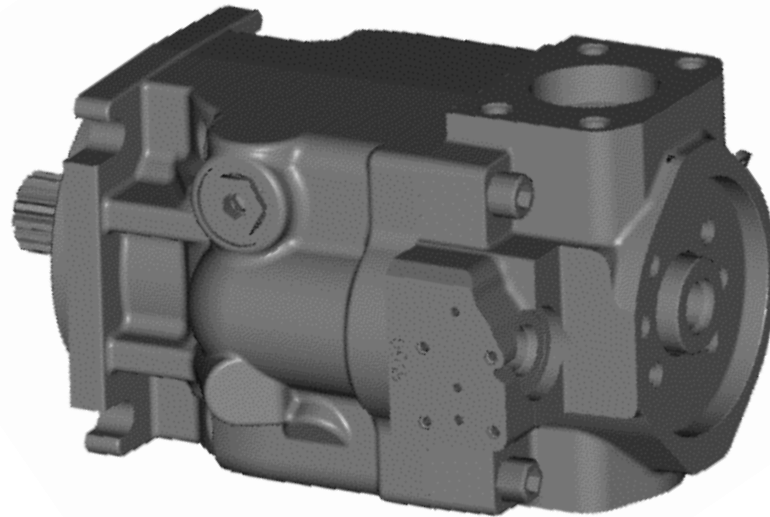
Others

- Not in use or Internal use

Order code



Base Model Pumps



Base models

E-Frame	Material	Nomenclature
Base Models	83041480	ER-L-147C-NN-NN-NN-NN-N-N-S1NL-A1N-NNN-NNN-P00
Base Models	83041481	ER-L-147C-NN-NN-NN-NN-N-N-S1RP-A1N-NNN-NNN-P00
Base Models	83041482	ER-L-147C-NN-NN-NN-NN-N-N-S1RP-A1R-NNN-ANS-P00
Base Models	83041483	ER-R-147C-NN-NN-NN-NN-N-N-S1NL-A1N-NNN-NNN-P00
Base Models	83041484	ER-R-147C-NN-NN-NN-NN-N-N-S1RP-A1N-NNN-NNN-P00
Base Models	83041485	ER-R-147C-NN-NN-NN-NN-N-N-S1RP-A1R-NNN-ANS-P00



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