



Hydraulic Motor/Pump

Series F11/F12
Fixed Displacement

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



ENGINEERING YOUR SUCCESS.

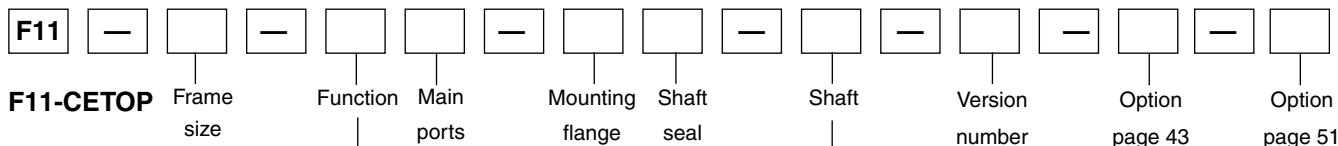
Specifications

**Hydraulic motor/pump
Series F11/F12**

Frame size F11	-5	-6	-10	-12	-14	-19
Displacement [cm ³ /rev]	4.9	6.0	9.8	12.5	14.3	19.0
Operating pressure						
max intermittent ¹⁾ [bar]	420	—————				420
max continuous [bar]	350	—————				350
Motor operating speed [rpm]						
max intermittent ¹⁾	14 000	11 200	11 200	10 300	9 900	8 900
max continuous	12 800	10 200	10 200	9 400	9 000	8 100
min continuous	50	—————				50
Max pump selfpriming speed²⁾						
L or R function; max [rpm]	4 600	—	4 200	3 900	3 900	3 500
Motor input flow						
max intermittent ¹⁾ [l/min]	69	67	110	129	142	169
max continuous [l/min]	63	61	100	118	129	154
Main circuit temp.³⁾, max [°C]	80					80
min [°C]	-40					-40
Theoretical torque at 100 bar [Nm]	7.8	9.5	15.6	19.8	22.7	30.2
Mass moment of inertia						
(x10 ⁻³) [kg m ²]	0.16	0.39	0.39	0.40	0.42	1.1
Weight [kg]	4.7	7.5	7.5	8.2	8.3	11

Frame size F12	-30	-40	-60	-80	-90	-110	-125	-150	-250	
Displacement [cm ³ /rev]	30.0	40.0	59.8	80.4	93.0	110.1	125.0	150	242	
Operating pressure										
max intermittent ¹⁾ [bar]	480	—————			480	420	480	480	420	420
max continuous [bar]	420	—————			420	350	420	420	350	350
Motor operating speed [rpm]										
max intermittent ¹⁾	7 300	6 700	5 800	5 300	5 000	4 800	4 600	3 500	3 000	
max continuous	6 700	6 100	5 300	4 800	4 600	4 400	4 200	3 200	2 700	
min continuous	50	—————							50	
Max pump selfpriming speed²⁾										
L or R function; max [rpm]	3150	2870	2500	2300	2 250	2200	2 100	1 700	1 500	
Motor input flow										
max intermittent ¹⁾ [l/min]	219	268	347	426	465	528	575	525	726	
max continuous [l/min]	201	244	317	386	428	484	525	480	653	
Main circuit temp.³⁾, max [°C]	80								80	
min [°C]	-40								-40	
Theoretical torque at 100 bar [Nm]	47.6	63.5	94.9	127.6	147.6	174.8	198.4	238.1	384.1	
Mass moment of inertia										
(x10 ⁻³) [kg m ²]	1.7	2.9	5	8.4	8.4	11.2	11.2	40	46	
Weight [kg]	12	16.5	21	26	26	36	36	70	77	

1) Intermittent: max 6 seconds in any one minute.
 2) Selfpriming speed valid at sea level.
 3) See also installation information, operating temperature.



Frame size	
Code	Displacem. (cm ³ /rev)
005	4.9
006	6.0
010	9.8
012	12.5
014	14.3
019	19.0

Version number
 (assigned for special versions)

Frame size	5	6	10	12	14	19
Code Function						
M Motor	x	x	x	-	-	x
H Motor, high pressure	x	-	x	x	x	x
S Motor, high speed	-	-	(x)	-	-	(x)
R Pump, clockwise rot'n	(x)	-	(x)	(x)	(x)	(x)
L Pump, counter clockw.	(x)	-	(x)	(x)	(x)	(x)

Frame size	5	6	10	12	14	19
Code Option						
MVR Make-up valve clockwise rotation	-	-	(x)	(x)	(x)	(x)
MVL Make-up valve counter clockwise rotation	-	-	(x)	(x)	(x)	(x)

For other versions, contact Parker Hannifin

Frame size	5	6	10	12	14	19
Code Main ports						
B BSP threads	x	x	x	x	x	x
U SAE, UN threads	(x)	-	(x)	-	-	(x)

Frame size	5	6	10	12	14	19
Code Shaft						
K Metric key	x	x	x	x	x	x
K Metric key, 25 mm ³	-	(x)	(x)	(x)	-	-
D Spline, DIN 5480	(x)	(x)	(x)	(x)	(x)	(x)
S Spline, SAE	(x)	-	-	-	-	-

Frame size	5	6	10	12	14	19
Code Mounting flange						
C CETOP flange	x	x	x	x	x	x
W Saw motor flange	-	-	(x)	(x)	(x)	(x)

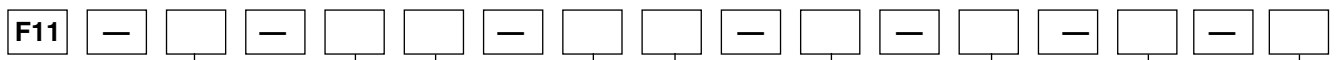
Frame size	5	6	10	12	14	19
Code Shaft seal						
N NBR ¹⁾ , low pressure	(x)	(x)	(x)	-	-	(x)
V FPM ²⁾ , high pressure, high temperature	x	x	x	x	x	x
S FPM ²⁾ , saw motor	-	(x)	(x)	-	-	(x)

x: Available (x): Optional -: Not available

- 1) NBR - Nitrile rubber
- 2) FPM - Fluor rubber
- 3) Special version number 349

Frame size	5	6	10	12	14	19
Code Option						
P Prepared for speed sensor	-	-	-	(x)	(x)	(x)

Ordering codes



F11-ISO

Frame size	
Code	Displacem. (cm ³ /rev)
010	9.8
012	12.5
014	14.3

Version number
(assigned for special versions)

Frame size	10	12	14
Code Option			
MVR Make-up valve clockwise rotation	(x)	(x)	(x)
MVL Make-up valve counter clockwise rotation	(x)	(x)	(x)

Frame size	10	12	14
Code Function			
M Motor	x	-	-
H Motor, high pressure	x	x	x
S Motor, high speed	(x)	-	-
R Pump, clockwise rot'n	(x)	(x)	(x)
L Pump, counter clockw.	(x)	(x)	(x)

Frame size	10	12	14
Code Shaft			
K Metric key	x	x	x
D Spline, DIN 5480	(x)	(x)	(x)
K Metric key, 25 mm ²)	(x)	(x)	-

Frame size	10	12	14
Code Main ports			
F Metric threads	x	x	x
B BSP threads	(x)	(x)	(x)

Frame size	10	12	14
Code Shaft seal			
V FPM ¹⁾ , high pressure, high temperature	x	x	x
S FPM ¹⁾ , saw motor	(x)	-	-

Frame size	10	12	14
Code Mounting flange			
I ISO flange	x	x	x

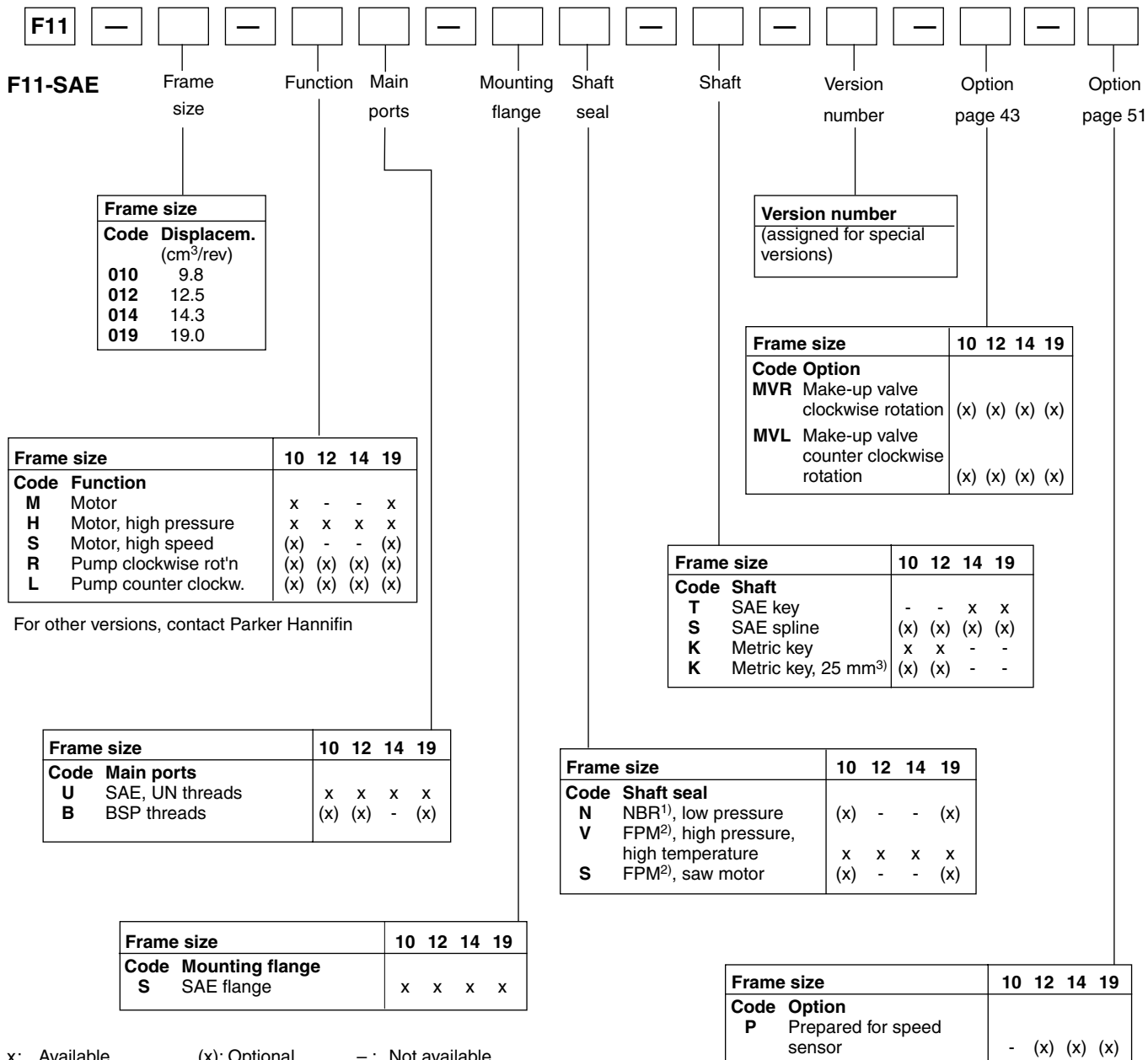
Frame size	10	12	14
Code Option			
P Prepared for speed sensor	-	(x)	(x)

x: Available (x): Optional - : Not available

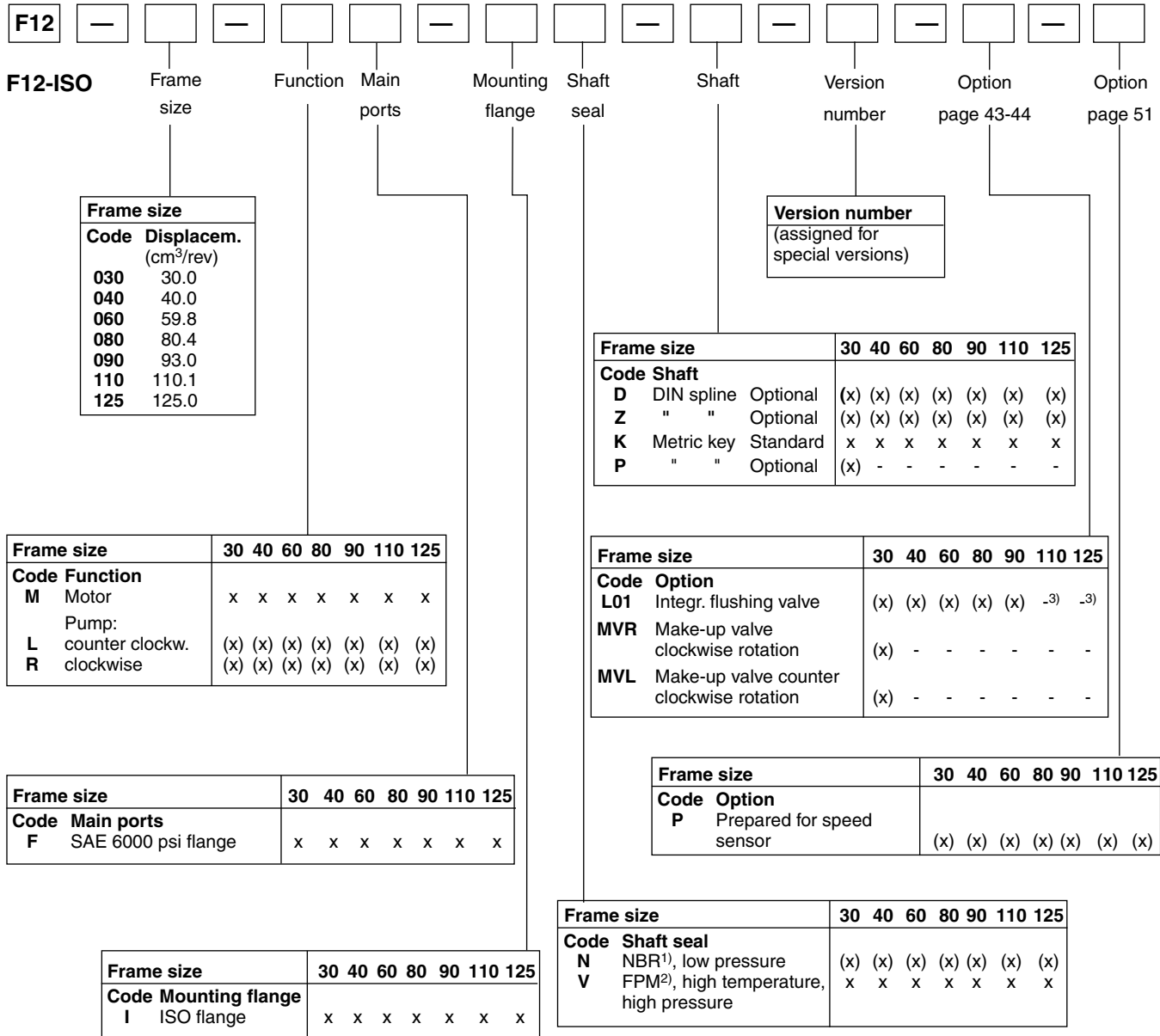
1) FPM - Fluor rubber

2) Special version number 349

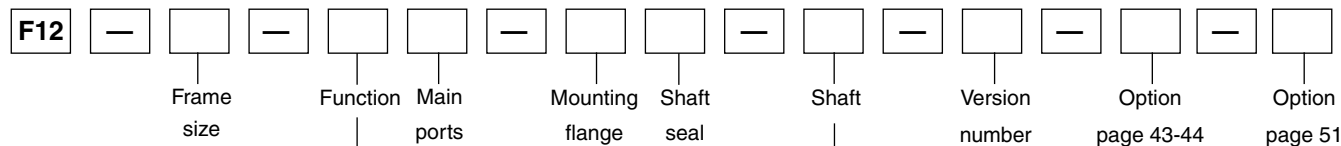
Ordering codes



x: Available (x): Optional - : Not available
 1) NBR - Nitrile rubber
 2) FPM - Fluor rubber
 3) Special version number 349



x: Available (x): Optional -: Not available
 1) NBR - Nitrile rubber
 2) FPM - Fluor rubber
 3) F12-110 and -125: Accessory valve block (page 45)



**F12-Cartridge
CETOP**

Frame size	
Code	Displacem. (cm ³ /rev)
030	30.0
040	40.0
060	59.8
080	80.4
090	93.0
110	110.1
125	125.0
150	150.0

Version number
(assigned for special versions)

Frame size	30	40	60	80	90	110	125	150
Code Function								
M Motor	x	x	x	x	x	x	x	x
H Motor, high pressure	-	-	-	-	-	-	-	(x)
Pump:								
R Clockwise	-	-	-	-	-	-	-	(x)
L counter clockw.	-	-	-	-	-	-	-	(x)

Frame size	30	40	60	80	90	110	125	150
Code Shaft								
C DIN spline Standard	x	x	x	x	x	x	x	-
K Metric key Optional	(x)	-	(x)	(x)	(x)	-	-	x
X Metric key ⁴ Optional	-	(x)	-	-	-	-	-	-
X Spline ⁵ DIN 5480	-	-	-	-	-	x	x	-
D Spline DIN 5480	-	-	-	-	-	-	-	(x)

Frame size	30	40	60	80	90	110	125	150
Code Main ports								
F SAE 6000 psi flange	x	x	x	x	x	x	x	x

Frame size	30	40	60	80	90	110	125	150
Code Option								
L01 Integr. flushing valve	(x)	(x)	(x)	(x)	(x)	- ³	- ³	-
MVR Make-up valve clockwise rotation	(x)	-	-	-	-	-	-	-
MVL Make-up valve counter clockwise rotation	(x)	-	-	-	-	-	-	-

Frame size	30	40	60	80	90	110	125	150
Code Option								
P Prepared for speed sensor	x	(x)	(x)	(x)	(x)	x	x	-

Frame size	30	40	60	80	90	110	125	150
Code Mounting flange								
C Cartridge	x	x	x	x	x	x	x	-
C CETOP	-	-	-	-	-	-	-	x

Frame size	30	40	60	80	90	110	125	150
Code Shaft seal								
N NBR ¹ , low pressure	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
V FPM ² , high temperature, high pressure	x	x	x	x	x	x	x	x

x: Available (x): Optional - : Not available

- 1) NBR - Nitrile rubber
- 2) FPM - Fluor rubber
- 3) F12-110 and -125: Accessory valve block (page 45)
- 4) Special version number 264
- 5) Special version number 326

Ordering codes

F12

F12-SAE Frame size Function Main ports Mounting flange Shaft seal Shaft Version number Option page 43-44 Option page 51

Frame size	
Code	Displacem. (cm ³ /rev)
030	30.0
040	40.0
060	59.8
080	80.4
090	93.0
110	110.1
125	125.0
150	150.0
250	242.0

Frame size	30	40	60	80	90	110	125	150	250
Code Function									
M Motor	x	x	x	x	x	x	x	x	-
H Motor, high pressure	-	-	-	-	-	-	-	(x)	-
Q Motor	-	-	-	-	-	-	-	-	x
Pump:									
L counter clockw.	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
R clockwise	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)

Frame size	30	40	60	80	90	110	125	150	250
Code Main ports									
S SAE 6000 psi flange	x	x	x	x	x	x	x	-	-
U SAE, UN threads	(x)	(x)	(x)	(x)	(x)	(x)	(x)	-	-
F SAE 6000 psi flange ⁴⁾	-	-	-	-	-	-	-	x	x

Frame size	30	40	60	80	90	110	125	150	250
Code Mounting flange									
S SAE 4 bolt	x	x	x	x	x	x	x	x	x
T SAE 2 bolt	x	x	x	-	-	-	-	-	-

Frame size	30	40	60	80	90	110	125	150	250
Code Shaft									
S SAE spline Optional	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
U " " Optional	-	-	-	(x)	(x)	-	-	-	-
T SAE key Standard	x	x	x	x	x	x	x	x	-
K Metric key	-	-	-	-	-	-	-	(x)	x
F SAE spline	-	-	-	-	-	-	-	-	(x)
D Spline, DIN 5480	-	-	-	-	-	-	-	-	(x)

Frame size	30	40	60	80	90	110	125	150	250
Code Option									
L01 Integr. flushing valve	(x)	(x)	(x)	(x)	(x)	- ³⁾	- ³⁾	-	-
MVR Make-up valve clockwise rotation	(x)	-	-	-	-	-	-	-	-
MVL Make-up valve counter clockwise rotation	(x)	-	-	-	-	-	-	-	-

Frame size	30	40	60	80	90	110	125	150	250
Code Option									
P Prepared for speed sensor	(x)	(x)	(x)	(x)	(x)	(x)	(x)	-	-

Frame size	30	40	60	80	90	110	125	150	250
Code Shaft seal									
N NBR ¹⁾ , low pressure	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	-
V FPM ²⁾ , high temperature, high pressure	x	x	x	x	x	x	x	x	x

x: Available (x): Optional -: Not available

1) NBR - Nitrile rubber
 2) FPM - Fluor rubber
 3) F12-110 and -125: Accessory valve block (page 45)
 4) Metric threads



HydraTorque

For a copy of the full catalogue and further support
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