

# F1 Pump

## F1-ISO



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## F1-25 to -101, ISO Specifications

Frame size F1-	25	41	51	61	81	101
<b>Displacement</b> [cm <sup>3</sup> /rev]	25.6	40.9	51.1	59.5	81.6	102.9
<b>Max flow</b> <sup>1)</sup> [l/min]						
at 350 bar	67	98	112	131	163 <sup>3)</sup>	185 <sup>3)</sup>
at 400 bar	56	86	97	113	143	160
<b>Max operating pressure</b> [bar]						
continuous	350	350	350	350	350	350
intermittent	400	400	400	400	400	400
<b>Shaft speed</b> [rpm]						
- short circuited pump (low press.)	2700	2700	2700	2700	2300	2300
- max speed at 350 bar <sup>2)</sup>	2600	2400	2200	2200	2000 <sup>3)</sup>	1800 <sup>3)</sup>
at 400 bar <sup>2)</sup>	2200	2100	1900	1900	1750	1550 <sup>3)</sup>
<b>Torque</b> <sup>1)</sup> [Nm]						
at 350 bar	142	227	284	331	453	572
at 400 bar	163	260	324	378	518	653
<b>Input power</b> [kW]						
- continuous	31	46	52	61	76	86
- intermittent <sup>4)</sup>	39	57	66	76	95	108
<b>Weight</b> [kg]	8.5	8.5	8.5	8.5	12.5	12.5

1) Theoretical values

2) Valid at an inlet pressure of 1.0 bar (abs.) when operating on mineral oil at a viscosity of 30 mm<sup>2</sup>/s (cSt).

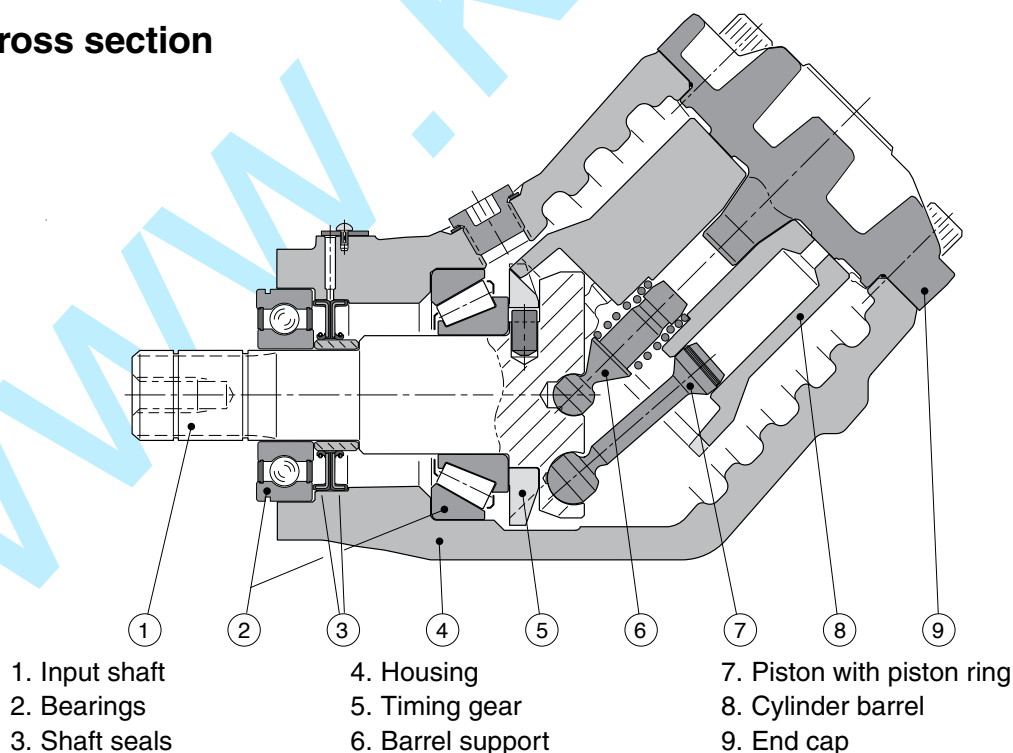
3) Valid with 2 1/2" inlet (suction) line.

With 2" suction line: F1-81 – max 1400 rpm (Q≈120 l/min);  
F1-101 – max 1000 rpm (Q≈120 l/min).

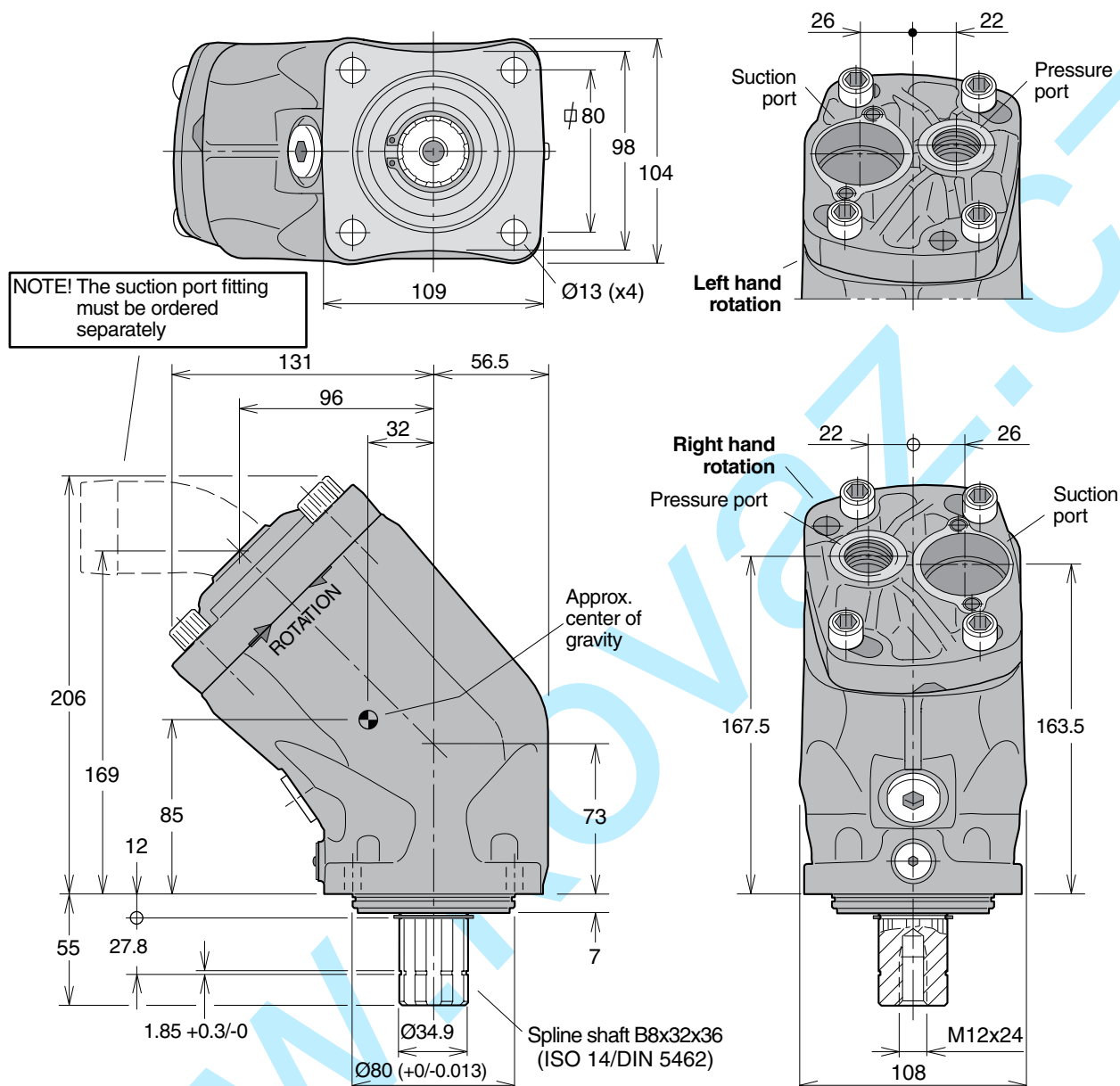
4) Max 6 seconds in any one minute.

**NOTE:** For noise level information, contact Parker Hannifin

### Pump cross section



## F1-25, -41, -51 and -61



### Ordering code

Example:

F1 frame size

25, 41, 51, 61, 81 or 101

**F1- 81 - R**

Shaft rotation

**R** Right hand

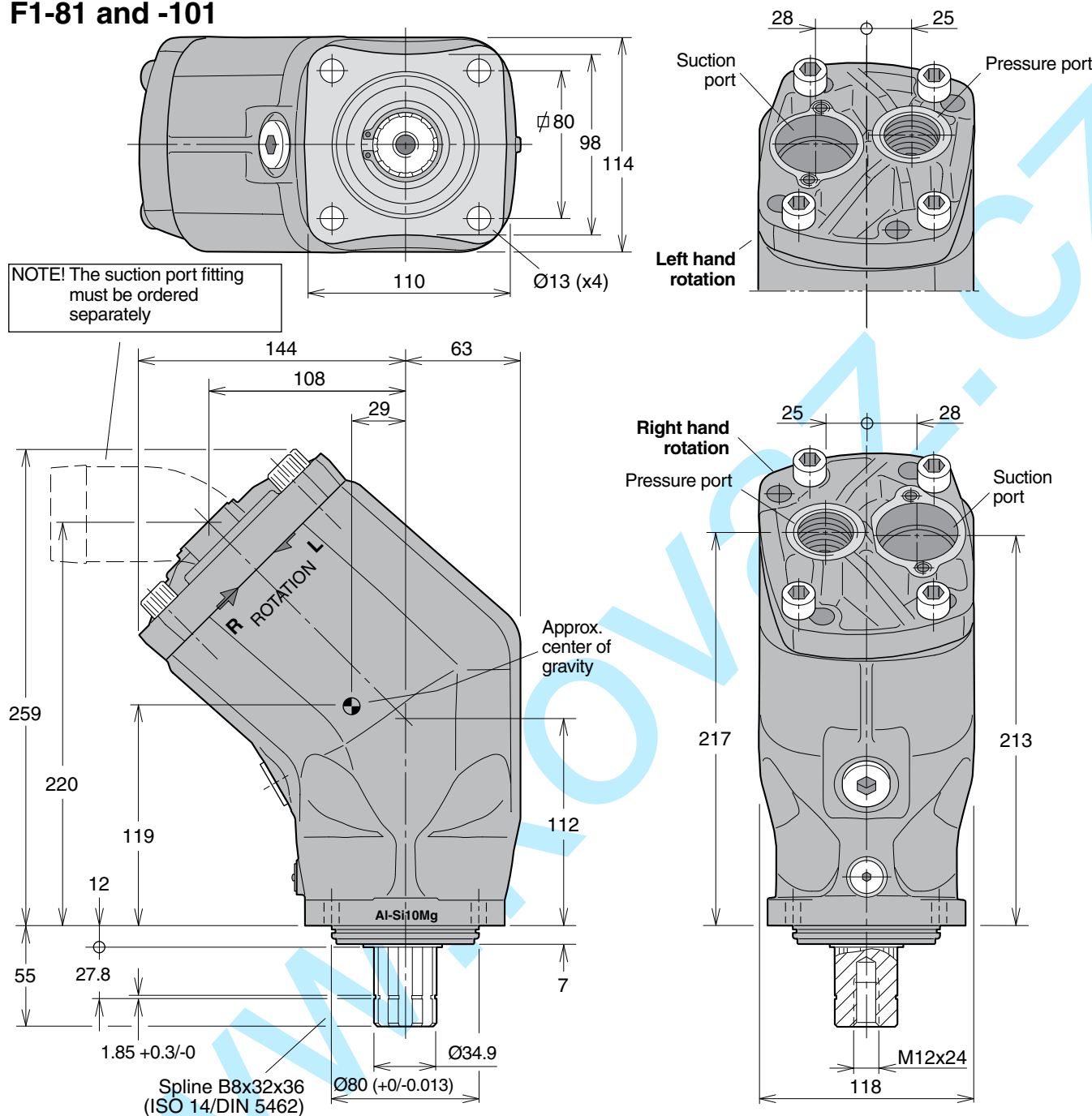
**L** Left hand

**NOTE:** The pump **does not** include a suction fitting; it must be ordered separately. See chapter 10.

### Standard versions

Designation	Ordering no.
F1-25-R	378 1024
F1-25-L	378 1025
F1-41-R	378 1040
F1-41-L	378 1041
F1-51-R	378 1050
F1-51-L	378 1051
F1-61-R	378 1060
F1-61-L	378 1061

## F1-81 and -101



### Port size

F1 frame size	Pressure port <sup>1)</sup>
-25	3/4"
-41	3/4"
-51	3/4"
-61	3/4"
-81	1"
-101	1"

1) BSP thread (fitting not included)

### Standard versions

Designation	Ordering no.
F1-81-R	378 1080
F1-81-L	378 1081
F1-101-R	378 1100
F1-101-L	378 1101

**NOTE:** The pump **does not** include a suction fitting; it must be ordered separately. See chapter 10.

## F1-12 ISO with BSP port treads

### Specifications

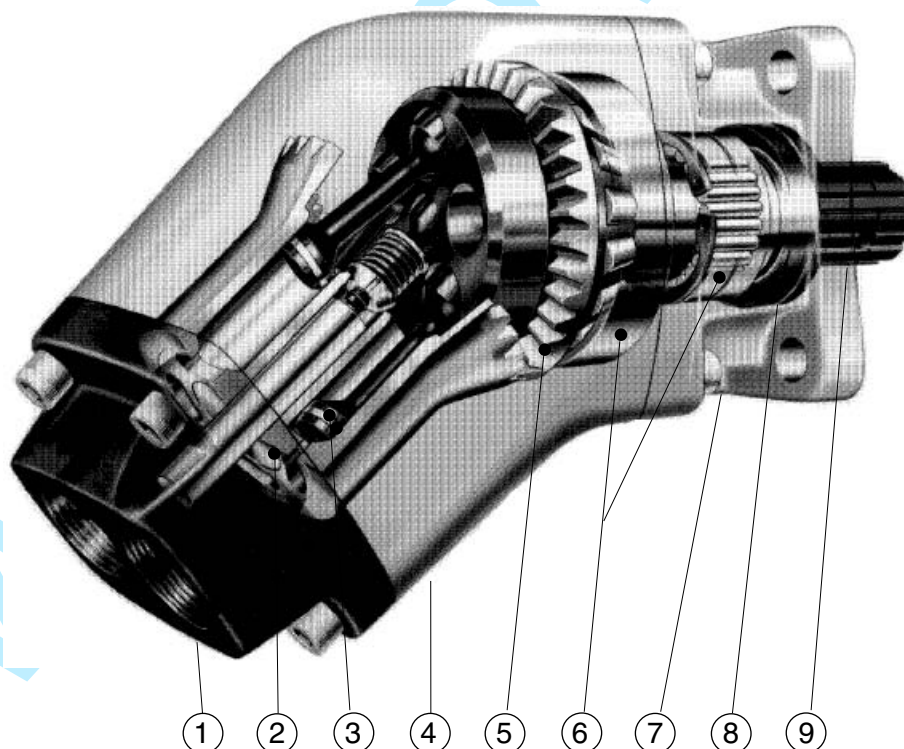
<b>Frame size F1-</b>	<b>12</b>
<b>Displacement</b> [cm <sup>3</sup> /rev]	12
<b>Max flow</b> <sup>1)</sup> [l/min]	28
<b>Max operating pressure</b> [bar]	350
<b>Shaft speed</b> [rpm]	
- short circuited pump (low press.)	3100
- max selfpriming speed	2300
<b>Torque</b> <sup>1)</sup> [Nm]	67
<b>Input power</b> [kW]	
- continuous	16.1
- intermittent <sup>2)</sup>	21.7
<b>Weight</b> [kg]	6.7

1) Theoretical values

2) Max 6 seconds in any one minute.

**NOTE:** For noise level information, contact Parker Hannifin

### Pump cross section



1 End cap

2 Cylinder barrel

3 Piston with piston ring

4 Barrel housing

5 Timing gear

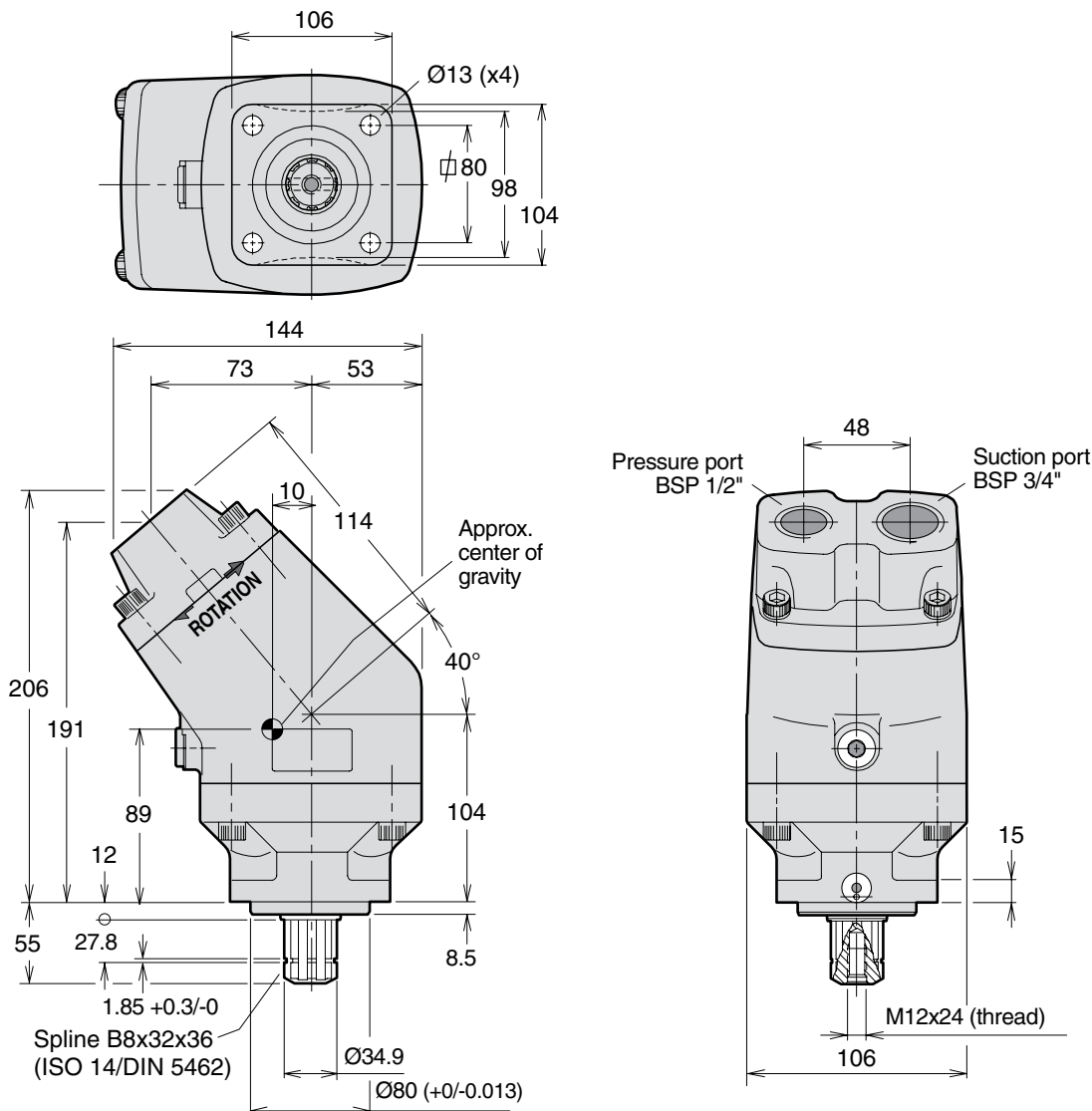
6 Roller bearings

7 Bearing housing with flange

8 Shaft seals

9 Input shaft

F1-12 with BSP port treads



Ordering code

Example: **F1- 12 - R**

F1 frame size **12**

Shaft rotation  
**R** Right hand  
**L** Left hand

Standard versions

Designation	Ordering no.
F1-12-R	378 2212
F1-12-L	378 2211

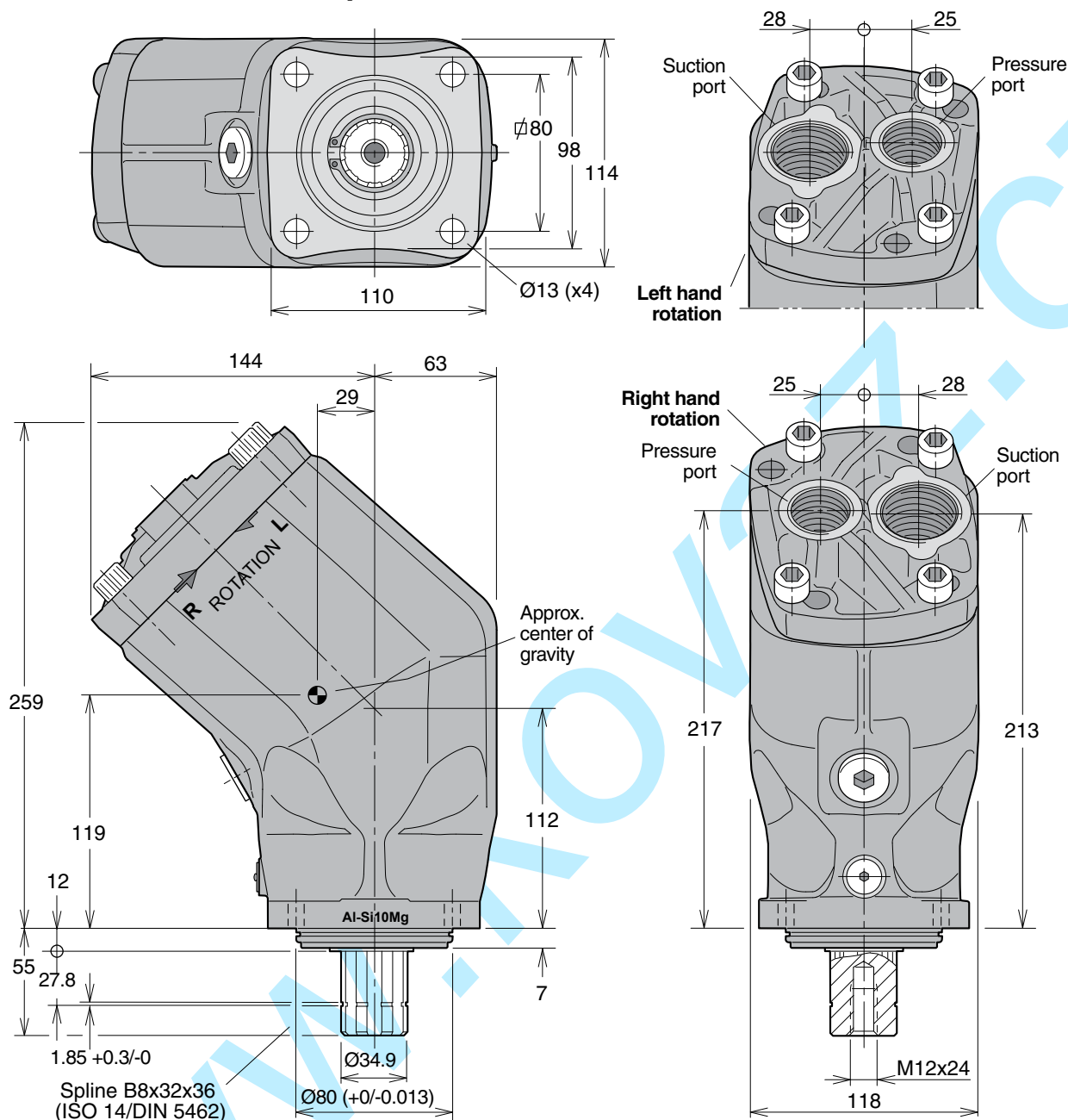
**NOTE:** The pump **does not** include a suction fitting; it must be ordered separately. See chapter 10.

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## F1-81 and -101 with BSP port threads



### Port size (all ports are BSP)

F1 frame size	Pressure port <sup>1)</sup>	Suction port
-81	1"	1 1/4"
-101	1"	1 1/4"

### Ordering code

Example: **F1-81-RB**

F1 frame size: **25, 41, 51, 61, 81 or 101**

Shaft rotation/port threads: **RB** Right hand/BSP  
**LB** Left hand/BSP

### Standard versions

Designation	Ordering no.
F1-81-RB	378 4080
F1-81-LB	378 4081
F1-101-RB	378 4100
F1-101-LB	378 4101

**NOTE:** The pump **does not** include a suction fitting; it must be ordered separately. See chapter 10.



# F1 Pump

## F1-SAE



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## Specifications

Frame size F1-	25	41	51	61
<b>Displacement</b> [cm <sup>3</sup> /rev]	25.6	40.9	51.1	59.5
[cu in/rev]	1.56	2.50	3.12	3.63
<b>Max flow</b> <sup>1)</sup>				
at 350 bar [l/min]	67	98	112	131
at 5000 psi [gpm]	17.7	25.9	29.6	34.6
at 400 bar [l/min]	56	86	97	113
at 5000 psi [gpm]	14.8	22.7	25.6	29.8
<b>Max operating pressure</b> [bar]				
continuous [bar]/[psi]	350/5000			
intermittent [bar]/[psi]	400/5800			
<b>Shaft speed</b> [rpm]				
- short circuited pump (low press.)	2700	2700	2700	2700
- max speed at 350 bar <sup>2)</sup> /5000 psi <sup>2)</sup>	2600	2400	2200	2200
at 400 bar <sup>2)</sup> /5800 psi <sup>2)</sup>	2200	2100	1900	1900
<b>Torque</b> <sup>1)</sup>				
at 350 bar [Nm]	142	227	284	331
at 5000 psi [lbf ft]	105	168	210	244
at 400 bar [Nm]	163	260	324	378
at 5800 psi [lbf ft]	120	192	239	279
<b>Input power</b>				
- continuous [kW]	31	46	52	61
[hp]	42	62	70	82
- intermittent [kW] <sup>3)</sup>	39	57	66	76
[hp] <sup>3)</sup>	52	76	88	102
<b>Weight</b> [kg]	8.5	8.5	8.5	8.5
[lbs]	18.7	18.7	18.7	18.7

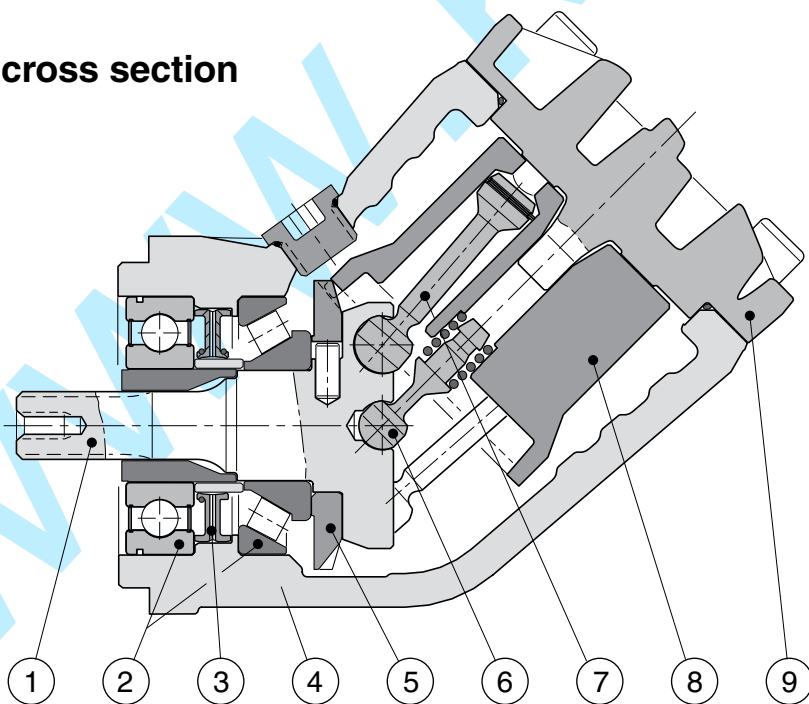
1) Theoretical values

2) Valid at an inlet pressure of 1.0 bar/15 psi (abs.) when operating on mineral oil at a viscosity of 30 mm<sup>2</sup>/s (cSt)/150 SUS.

3) Max 6 seconds in any one minute.

**NOTE:** For noise level information, contact Parker Hannifin.

## Pump cross section



1. Input shaft
2. Bearings
3. Shaft seal
4. Housing
5. Timing gear
6. Barrel support
7. Piston with piston ring
8. Cylinder barrel
9. End cap



# F1 Motor



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