

# F1 Pump

## F1-ISO



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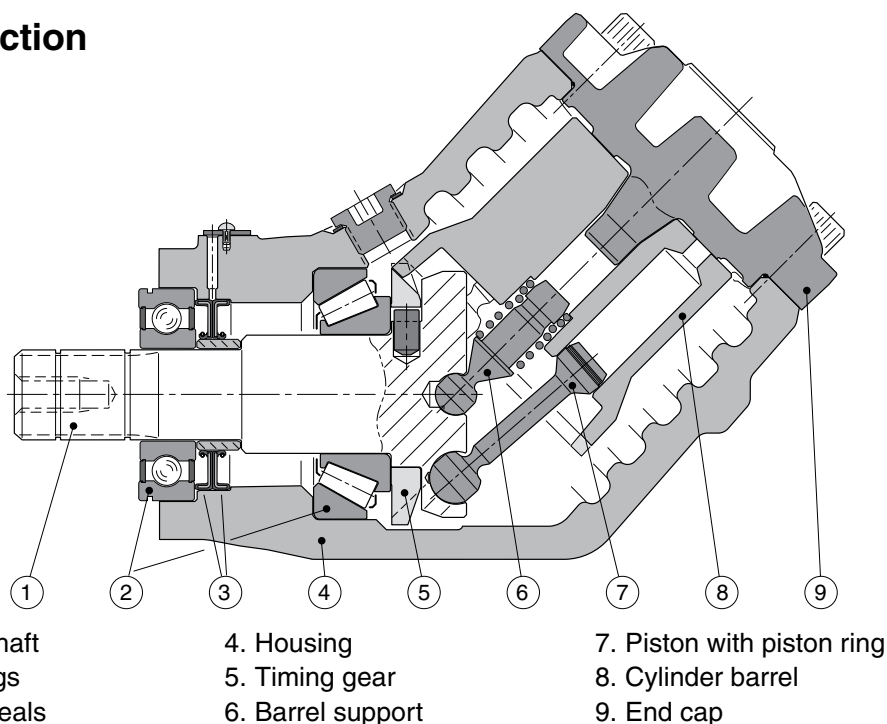
## F1-25 to -101, ISO Specifications

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]	67	98	112	131	163 <sup>3)</sup>	185 <sup>3)</sup>
<b>Max operating pressure</b> [bar]	400	400	400	400	400	400
<b>Mass moment of inertia J</b> [kgm <sup>2</sup> ]	0,00274	0,00266	0,00261	0,00257	0,00532	0,00524
<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>
<b>Torque</b> <sup>1)</sup> [Nm]	163	260	324	378	518	653
<b>Input power</b> [kW]	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).

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

### Pump cross section

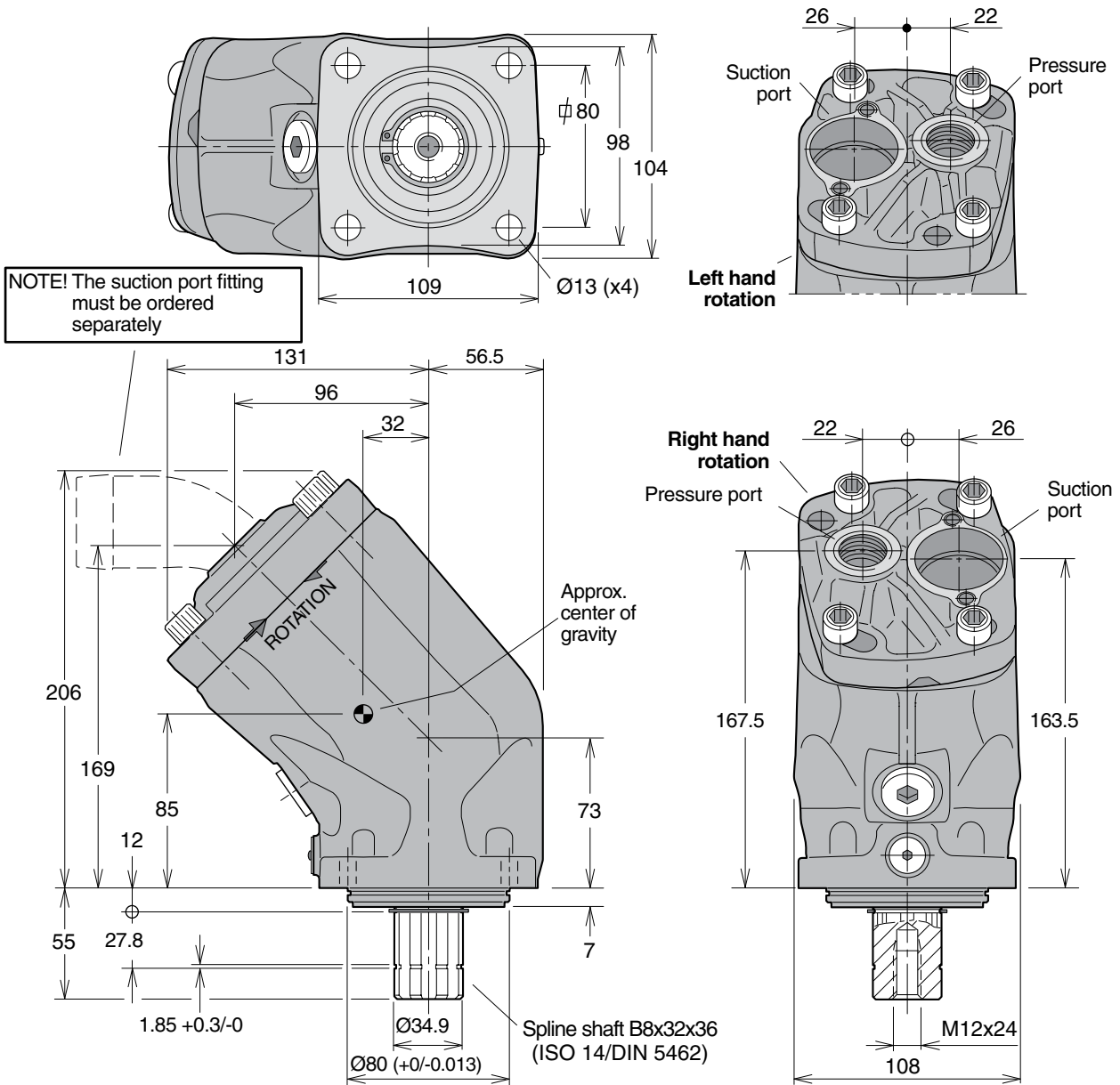


1. Input shaft
2. Bearings
3. Shaft seals

4. Housing
5. Timing gear
6. Barrel support

7. Piston with piston ring
8. Cylinder barrel
9. End cap

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



**Ordering code**

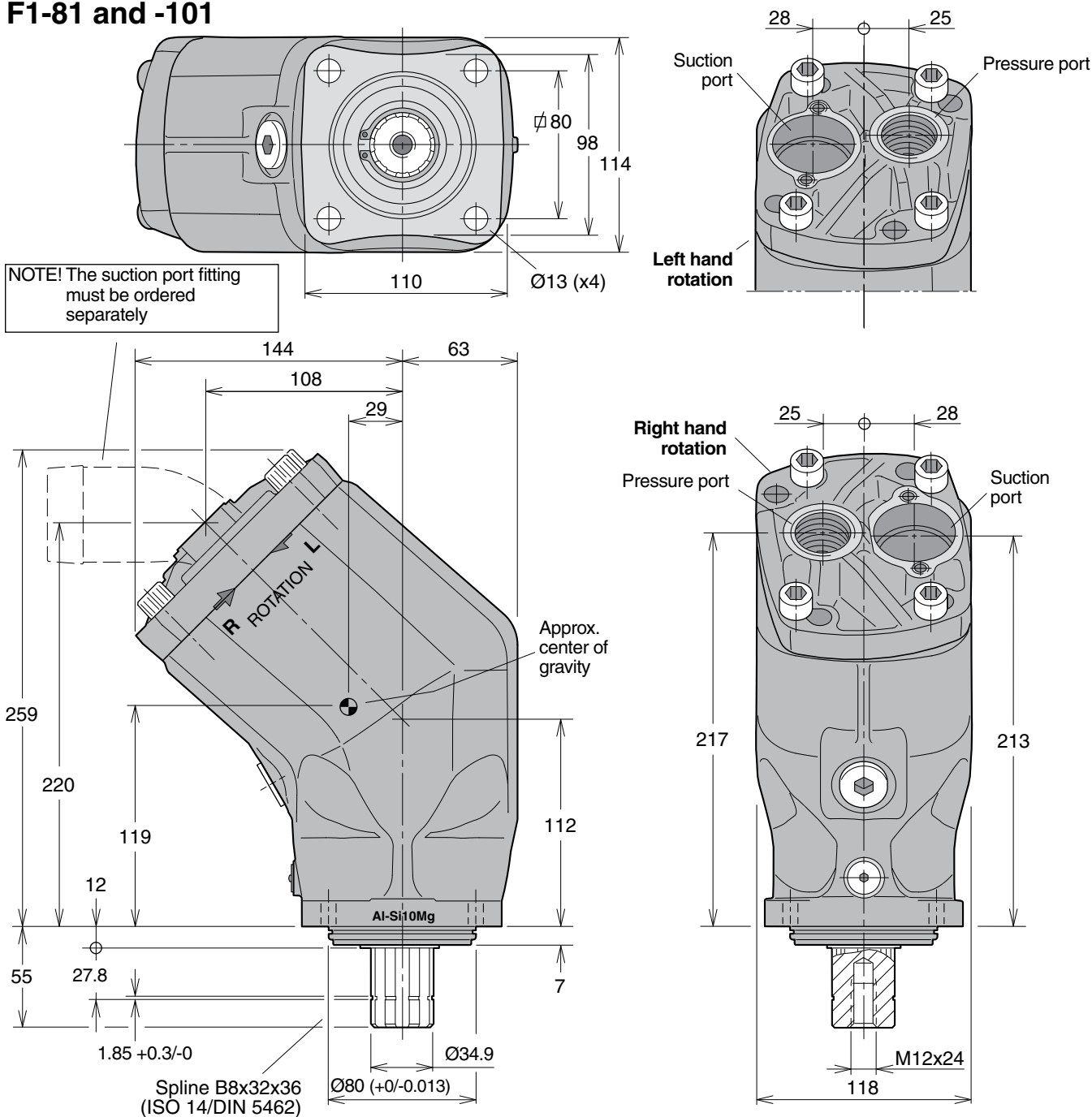
Example: **F1-81-R**  
 F1 frame size **25, 41, 51, 61, 81 or 101**  
 Shaft rotation **R** Right hand  
**L** Left hand

**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

**NOTE:** The pump **does not** include a suction fitting; it must be ordered separately. See chapter 11.

**F1-81 and -101**



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**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 11.

## F1-12 ISO with BSP port treads

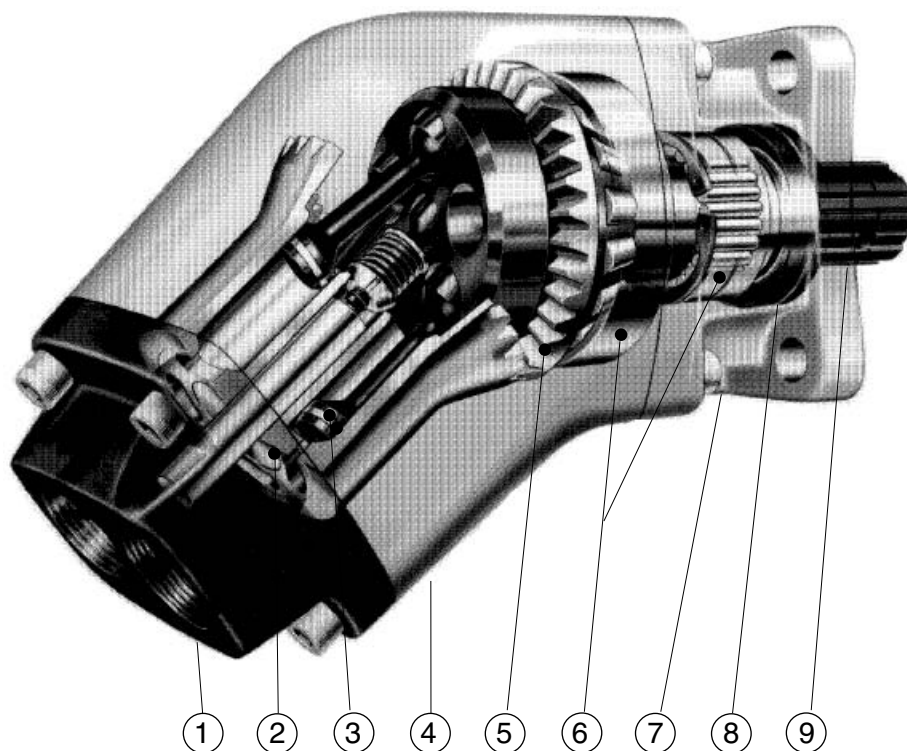
### Specifications

<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>Max input power</b> [kW]	16
<b>Weight</b> [kg]	6.7

1) Theoretical values

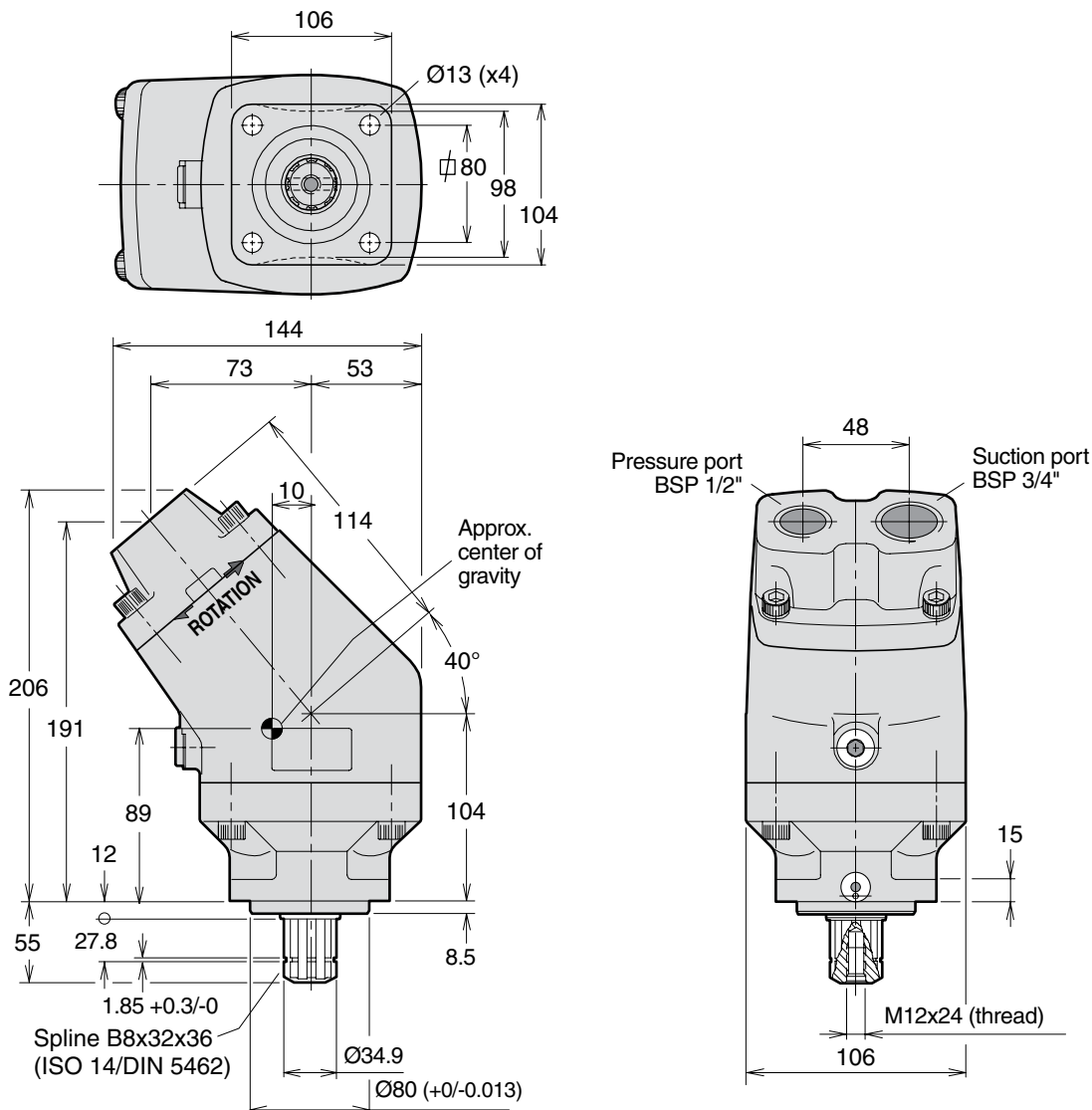
**NOTE:** For noise level information, contact Parker Hannifin

### Pump cross section



- |                           |                   |                               |
|---------------------------|-------------------|-------------------------------|
| 1 End cap                 | 4 Barrel housing  | 7 Bearing housing with flange |
| 2 Cylinder barrel         | 5 Timing gear     | 8 Shaft seals                 |
| 3 Piston with piston ring | 6 Roller bearings | 9 Input shaft                 |

**F1-12 with BSP port treads**



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**Ordering code**

Example: **F1- 12 - R**

F1 frame size **12**

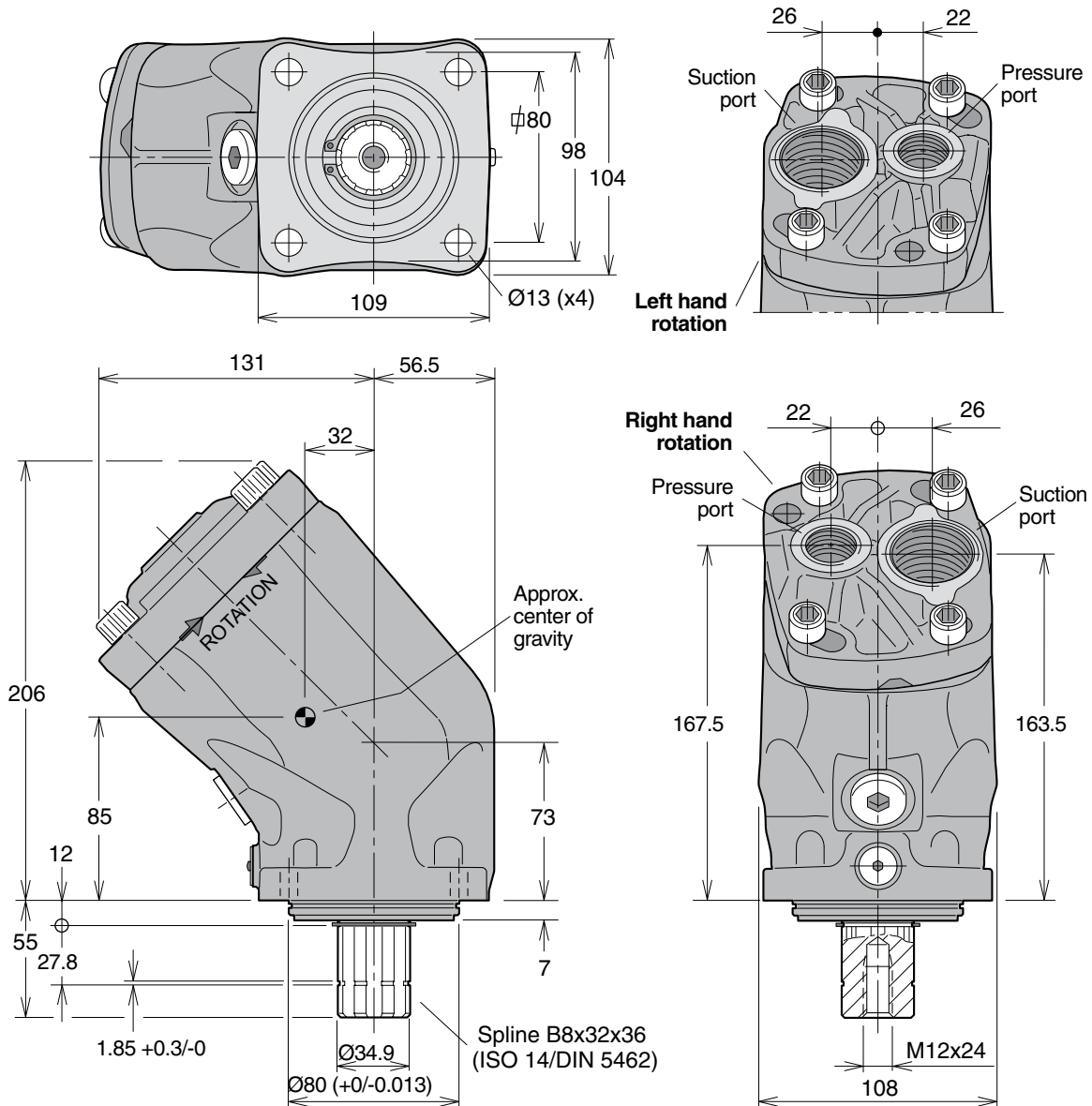
Shaft rotation **R** Right hand  
**L** Left hand

**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 11.

**F1-25, -41, -51 and -61 with BSP port threads**



**Port size** (all ports are BSP)

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

**Ordering code**

Example: **F1-61-RB**

F1 frame size ————— 25, 41, 51, 61, 81 or 101

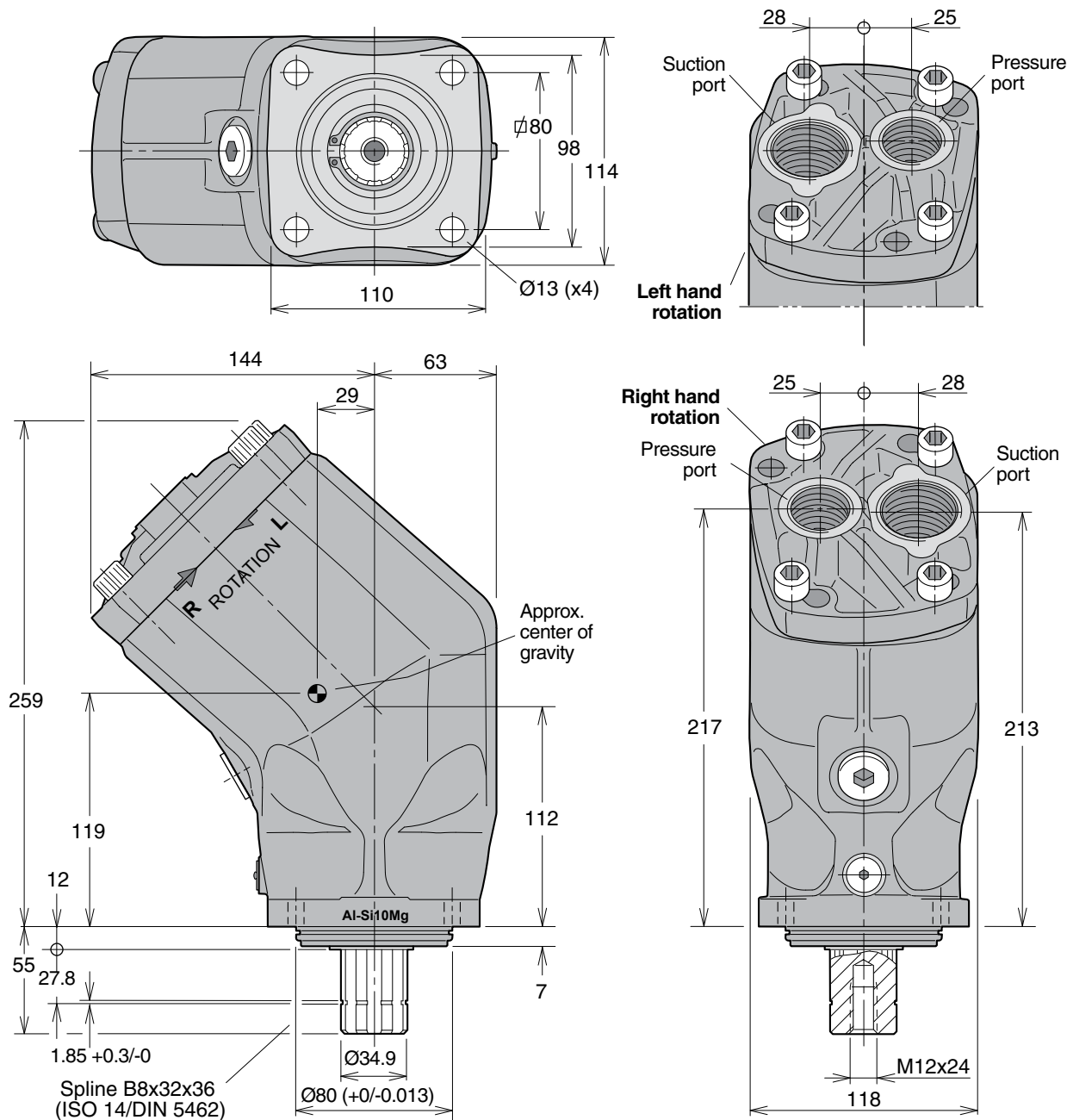
Shaft rotation/port threads ————— RB Right hand/BSP  
 LB Left hand/BSP

**Standard versions**

Designation	Ordering no.
F1-25-RB	378 4024
F1-25-LB	378 4025
F1-41-RB	378 4040
F1-41-LB	378 4041
F1-51-RB	378 4050
F1-51-LB	378 4051
F1-61-RB	378 4060
F1-61-LB	378 4061

**NOTE:** The pump **does not** include a suction fitting; it must be ordered separately. See chapter 11.

**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 11.



# F1 Pump

## F1-SAE



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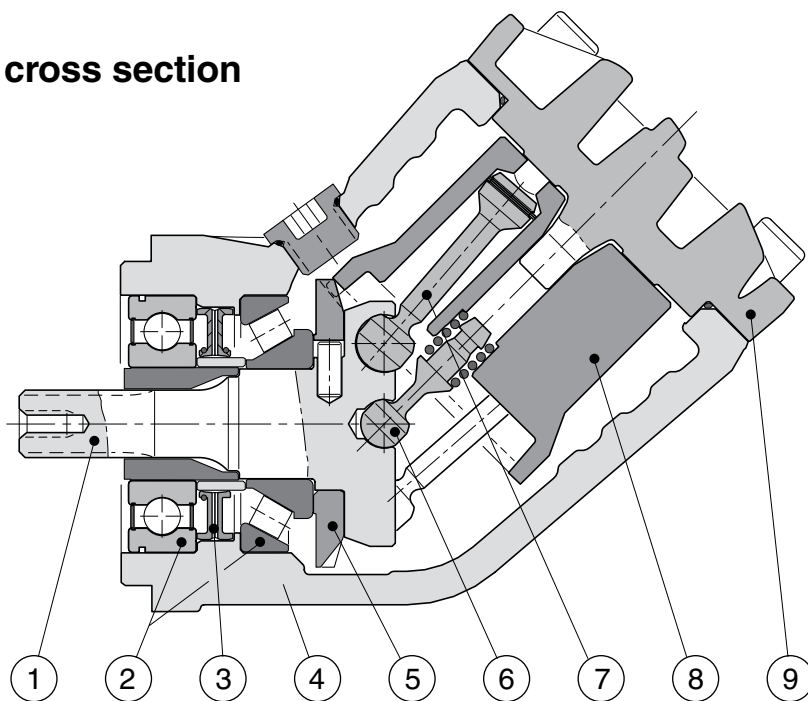
### Specifications

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> [l/min]	67	98	112	131
[gpm]	17.7	25.9	29.6	34.6
<b>Max operating pressure</b> [bar]	350	350	350	350
[psi]	5000	5000	5000	5000
<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
<b>Torque</b> <sup>1)</sup>				
at 350 bar [Nm]	142	227	284	331
at 5000 psi [lbf ft]	105	168	210	244
<b>Input power</b>				
[kW]	39	57	66	76
[hp]	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.

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

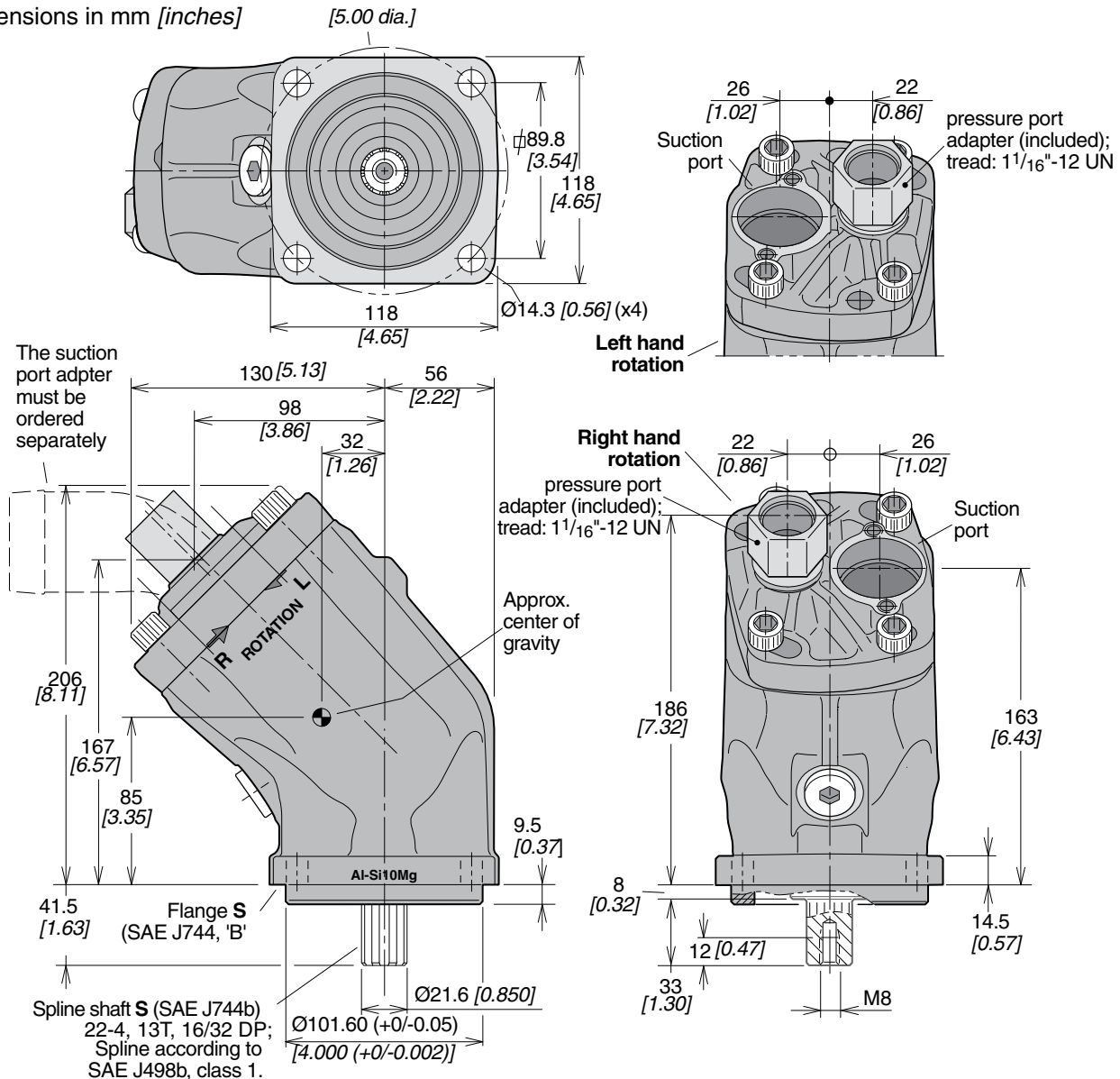
### Pump cross section



- 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

**Installation dimensions, F1-25, -41, -51 and -61 (SAE)**

Dimensions in mm [inches]



**Ordering code (SAE)**

Example:

**F1-61-RU-SV-S**

F1 frame size  
**25, 41, 51 or 61**

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

**Port size**

F1 frame size	Pressure port <sup>1)</sup>
-25	1 1/16"-12 UN
-41	1 1/16"-12 UN
-51	1 1/16"-12 UN
-61	1 1/16"-12 UN

1) BSP-to-SAE adapter (included)

Shaft end  
**S** SAE spline "B" spline

Shaft seal  
**V** FPM

Mounting flange  
**S** SAE "B"

Main port  
**U** SAE O-ring, UN threads

**Standard SAE versions**

Designation	Ordering no.
F1-25-RU	378 1424
F1-25-LU	378 1425
F1-41-RU	378 1440
F1-41-LU	378 1441
F1-51-RU	378 1450
F1-51-LU	378 1451
F1-61-RU	378 1460
F1-61-LU	378 1461

**NOTE:** The pump **does not** include a suction fitting; it must be ordered separately. See chapter 11.