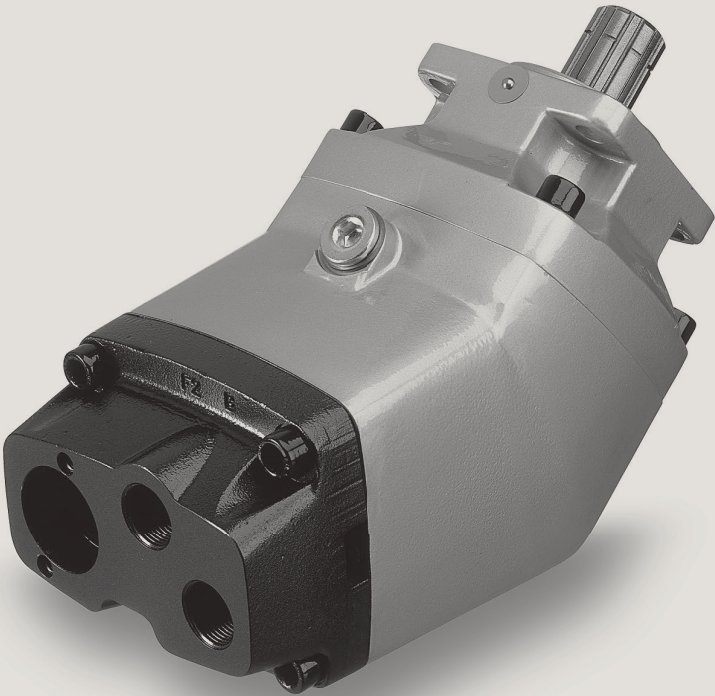


F2 Twin-flow Pump



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Specifications

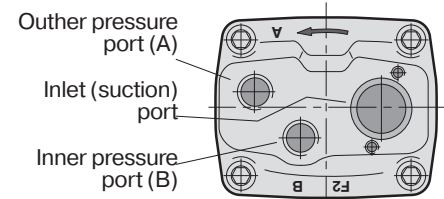
Frame size F2-	42/42	53/53	55/28	70/35	70/70
Displacement [cm ³ /rev]					
Port A	43	55	55	69	68
Port B	41	52	28	36	68
Max operating pressure [bar]					
continuous	350	350	350	350	300
intermittent ³⁾	400	400	400	400	350
Mass moment of inertia J [kgm ²]	0.0092	0.0091	0.0091	0.0090	0.0104
Max Shaft speed [rpm]					
(unloaded pump; low pressure)	2550	2550	2550	2550	– ³⁾
Max selfpriming speed [rpm]					
Ports A ¹⁾ and B ¹⁾ pressurised	1800	1800	1800	1800	1650
Port A ¹⁾ unloaded, pressure in port B	2100	2100	2100	2100	2100
Max input power ²⁾ [kW]	100	127	100	126	131
Weight [kg]	19	19	19	19	19

¹⁾ Valid at an inlet pressure of 1.0 bar (abs.) when operating on mineral oil at a viscosity of 30 mm²/s (cSt).

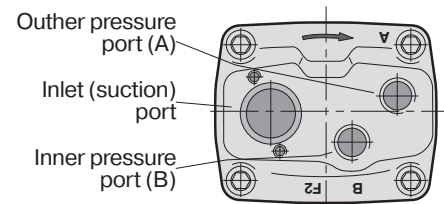
²⁾ Max 6 seconds in any one minute.

³⁾ Not suitable for engine-PTO

'Left hand' and 'right hand' end caps



End cap for right hand rotating pump



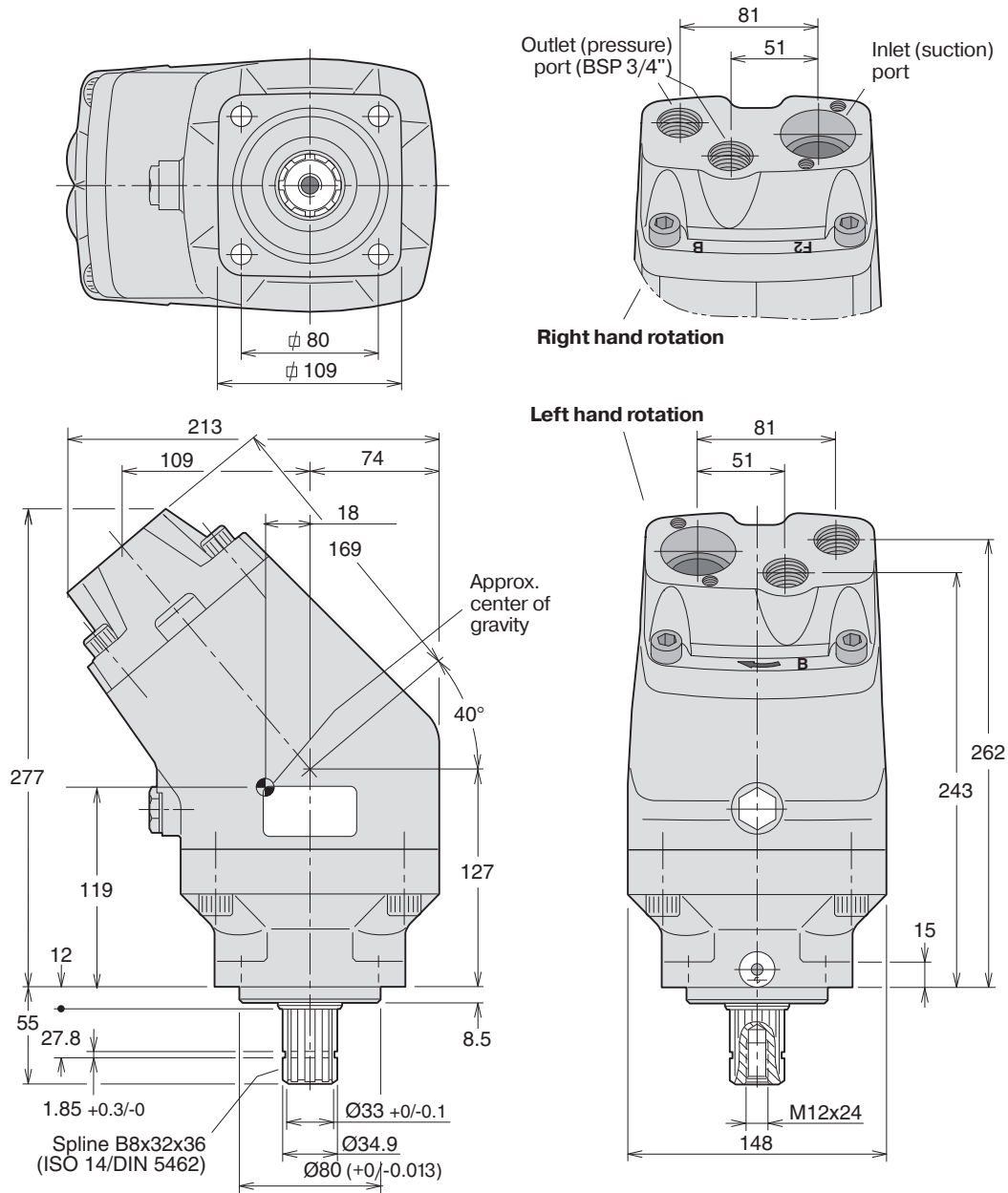
End cap for left hand rotating pump

Flow vs. shaft speed (theoretical)

Pump speed [rpm]	800	1000	1200	1400	1600	1800	1900	2000	2100
F2-53/53 flow [l/min]									
Port A	43	54	65	76	86	97	-	-	-
Port B	42	52	62	73	83	94	99	104	109
Total (ports A + B)	85	106	127	149	169	191	-	-	-
Note: 42/42 values is 80 % of 53/53 values 70/70 values is 130 % of 53/53 values									
F2-70/35 flow [l/min]									
Port A	55	69	83	97	110	124	-	-	-
Port B	29	36	43	50	58	65	68	72	76
Total (ports A + B)	84	105	126	147	168	189	-	-	-
Note: 55/28 values is 80 % of 70/35 values									

Shaft torque vs. pressure (theoretical)

Pressure [bar]	150	200	250	300	350
F2-53/53 torque [Nm]					
Port A	129	171	214	257	300
Port B	124	165	206	248	289
Total (ports A + B)	253	336	420	505	589
Note: 42/42 values is 80 % of 53/53 values 70/70 values is 130 % of 53/53 values					
F2-70/35 torque [Nm]					
Port A	164	219	274	329	383
Port B	86	114	143	171	200
Total (ports A + B)	250	333	417	500	583
Note: 55/28 values is 80 % of 70/35 values					



Ordering code

Example: **F2 - 53/53 - L**

Frame size [cm³/rev]

42/42

53/53

55/28

70/35

70/70

Direction of rotation

L Left hand

R Right hand

NOTE:

- Before start-up, tighten the inspection port plug to 70 – 100 Nm.
- To change the direction of rotation, **the end cap must be replaced.**

NOTE:

The pump **does not** include a suction fitting; it must be ordered separately. See page 63ff..

Standard versions

Designation	Ordering no.
F2-42/42-R	378 4042
F2-42/42-L	378 4043
F2-53/53-R	378 1453
F2-53/53-L	378 1454
F2-55/28-R	378 4128
F2-55/28-L	378 4129
F2-70/35-R	378 1470
F2-70/35-L	378 1471
F2-70/70-R	378 4070
F2-70/70-L	378 4071

F3 Pump



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F3-81 and -101, ISO Specifications

Frame size F3-	81	101
Displacement [cm ³ /rev]	81.6	102.9
Max flow ¹⁾ [l/min]	180	216
Max operating pressure [bar]	400	400
Shaft speed [rpm]		
- short circuited pump (low press.)	2300	2300
- max selfpriming speed ²⁾	2200	2100
Torque ¹⁾ [Nm]	518	653
Max input power ³⁾ [kW]	105	126
Weight [kg]	20.3	20.1

¹⁾ Theoretical values

²⁾ Valid at an inlet pressure of 1.0 bar (abs.) when operating on mineral oil at a viscosity of 30 mm²/s (cSt).

³⁾ Max 6 seconds in any one minute.

NOTE: For noise level information, contact Parker Hannifin.

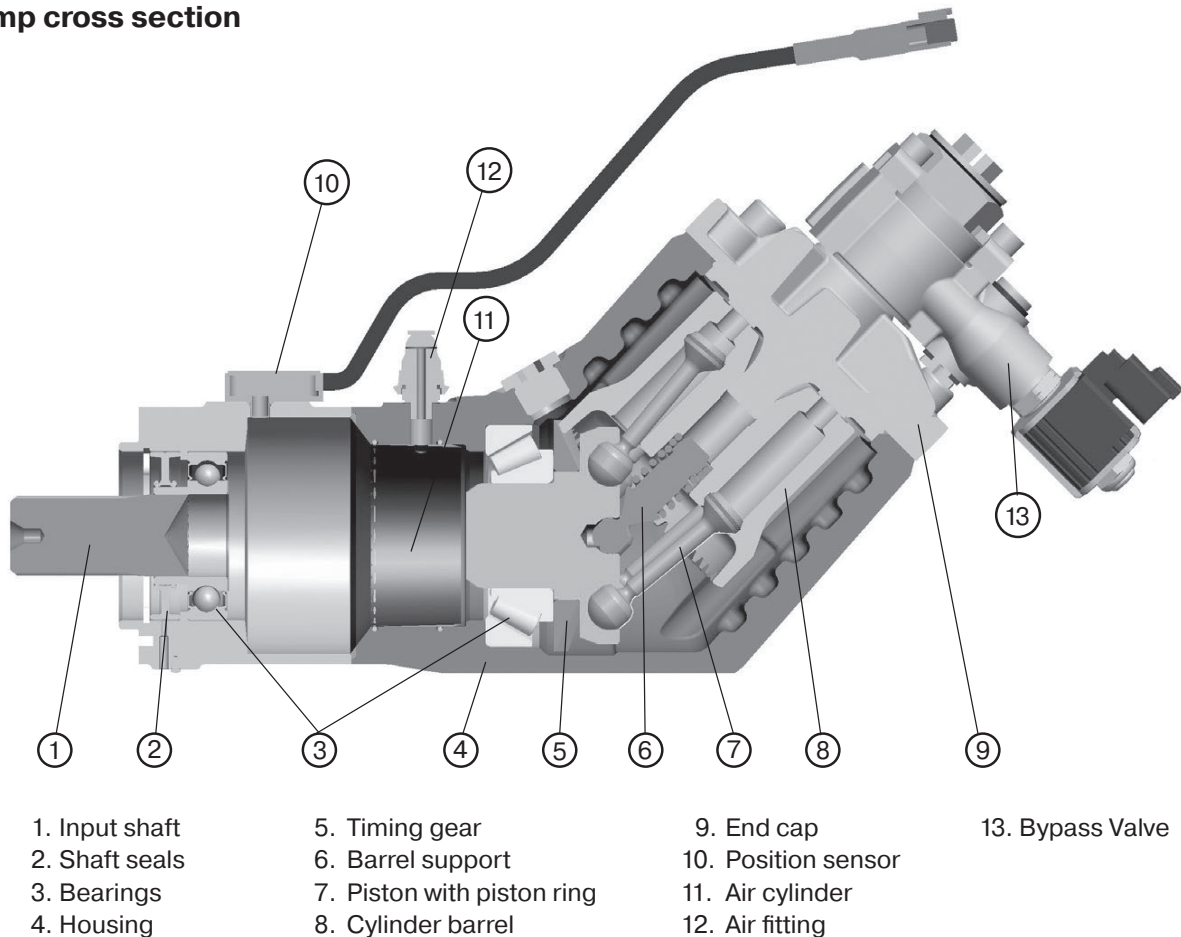
BPV-F3 Bypass valve 12 or 24 VDC Without manual override

Bypass valve, type	BPV-F3
Max pressure, continuous	350 bar
intermittent	400 bar
Solenoid voltage	12 or 24 VDC,
Power requirement	14 W
Operating mode	Activated solenoid: Check valve closed

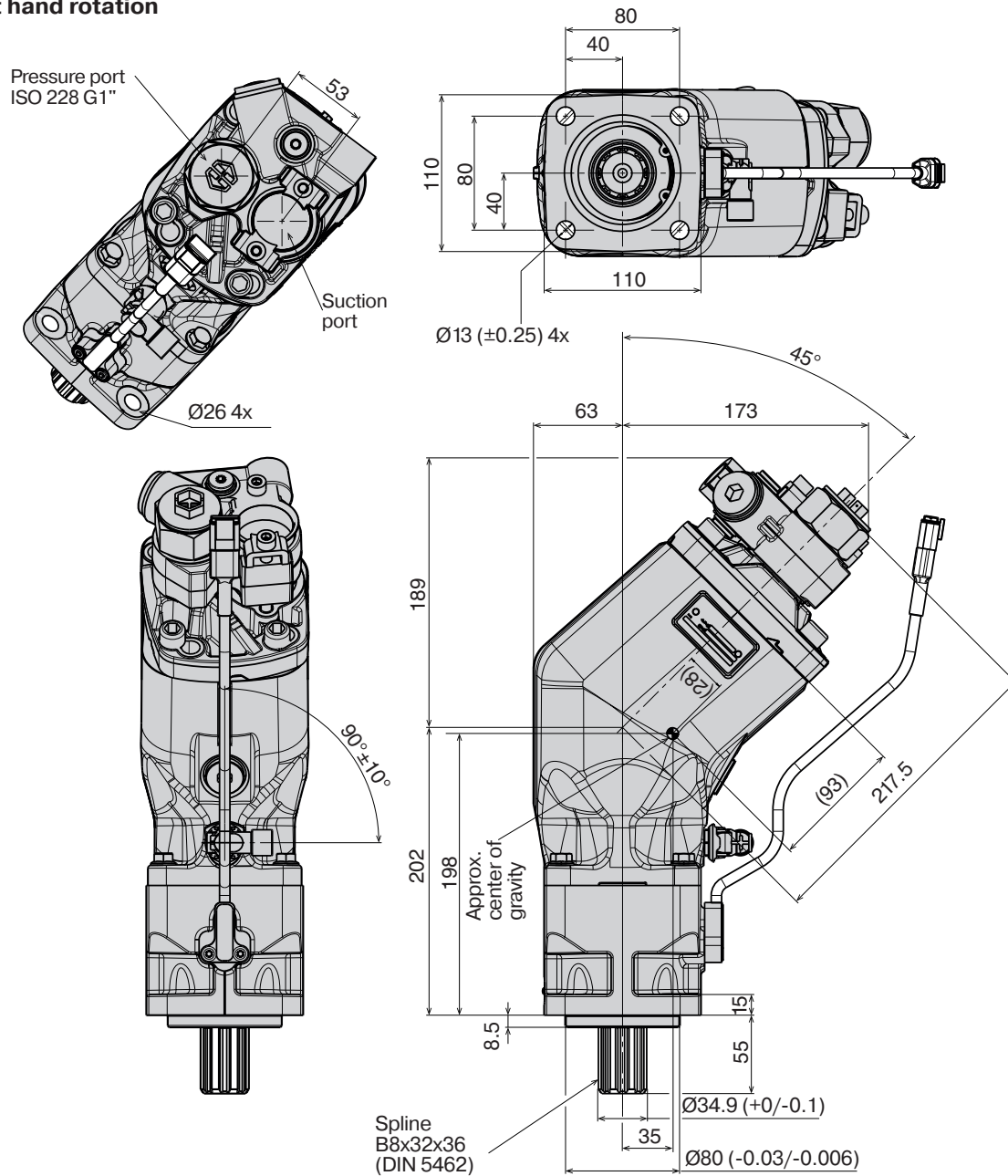
Accessories / Spare Parts see page 64

- As the BPV valve is symmetrical, it can be 'turned 180°' to prevent interference with chassis components; it can be utilised for either left hand or right hand pumps.
- The valve function must only be activated or released (by means of the 24 VDC solenoid) at no-load (below 20 bar) system pressure.

Pump cross section



F3-81 and -101 Right hand rotation



Port size

F3 frame size	Pressure port ¹⁾
-81	1"
-121	1"

¹⁾ BSP thread (fitting not included).

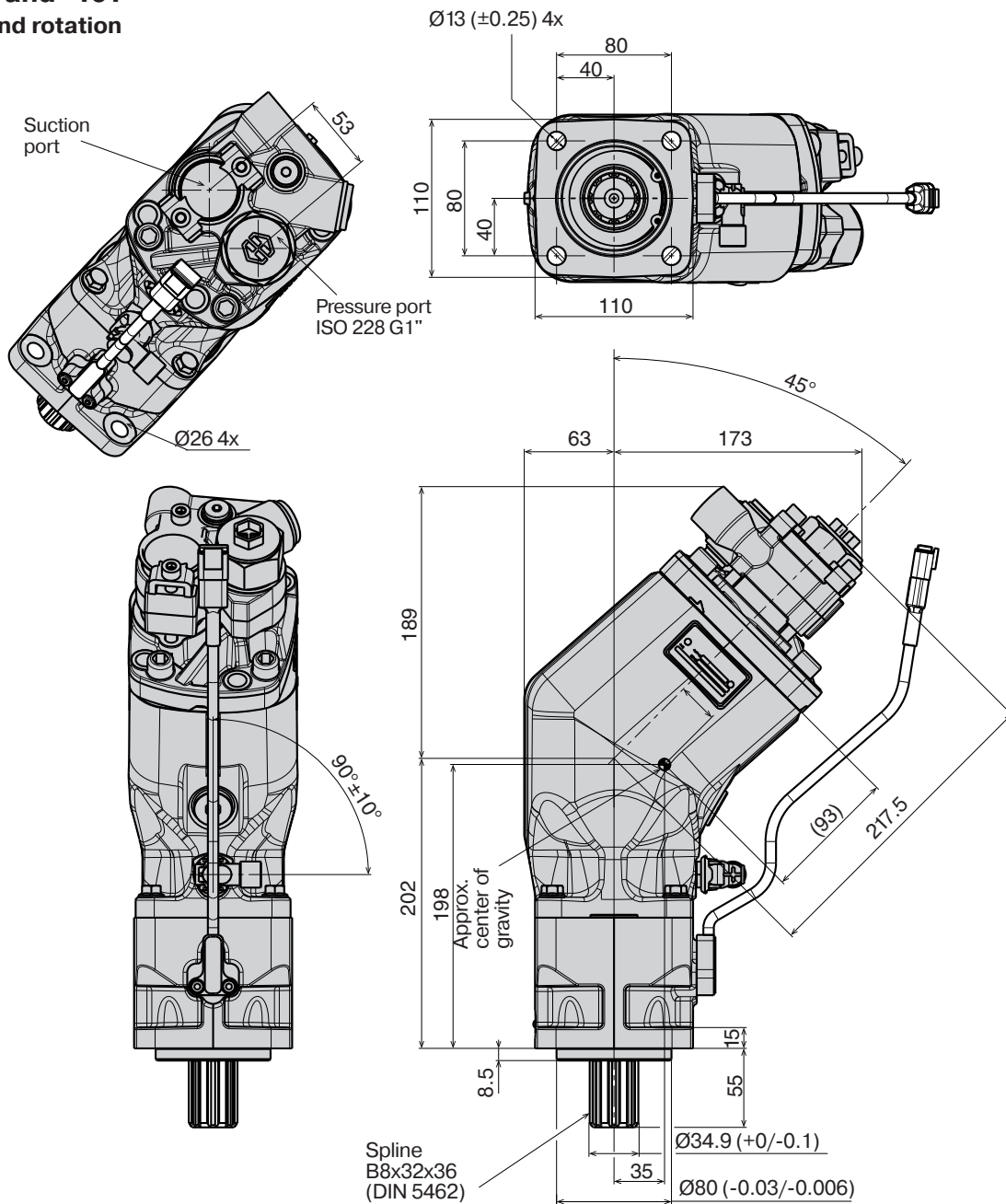
NOTE: The pump **does not** include a suction fitting; it must be ordered separately. See page 63ff..

Standard versions

Designation	Ordering no. 24 VDC	Ordering no. 12 VDC
F3-81-R-	372 0091	3720382
F3-101-R-	372 0093	3720384

F3-81 and -101

Left hand rotation



Port size

F3 frame size	Pressure port ¹⁾
-81	1"
-121	1"

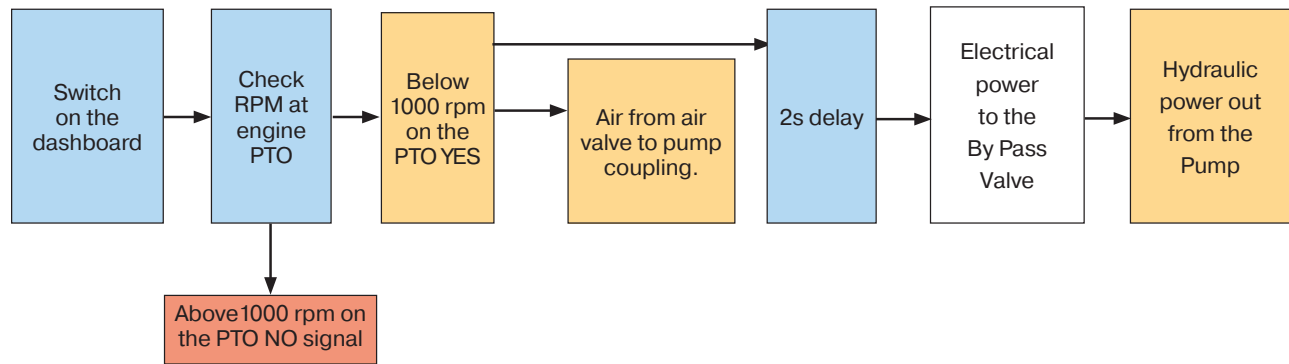
¹⁾ BSP thread (fitting not included).

NOTE: The pump **does not** include a suction fitting; it must be ordered separately. See page 63ff.

Standard versions

Designation	Ordering no. 24 VDC	Ordering no. 12 VDC
F3-81-L-	372 0092	3720383
F3-101-L-	372 0094	3720385

Block diagram engaging the F3 pump



Product Demand

- Max pump shaft speed before the F3 can be engaged is 1000 rpm. (verify engine PTO speed)
- Air pressure > 5 bar before the clutch can start to engage the pump

- * For electrical diagram, contact Parker Hannifin
- * Check the bending torque limit on the PTO mount.
F3 - Bending torque 33 Nm

Interface

