



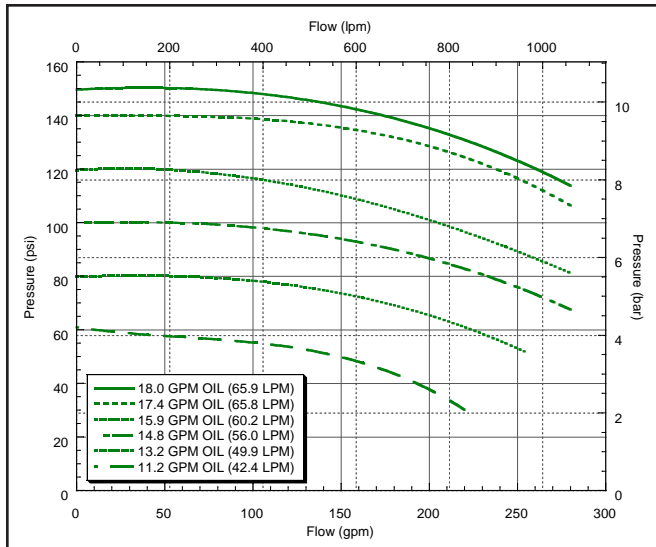
High Performance OASISTM Wet Seal Centrifugal Pump



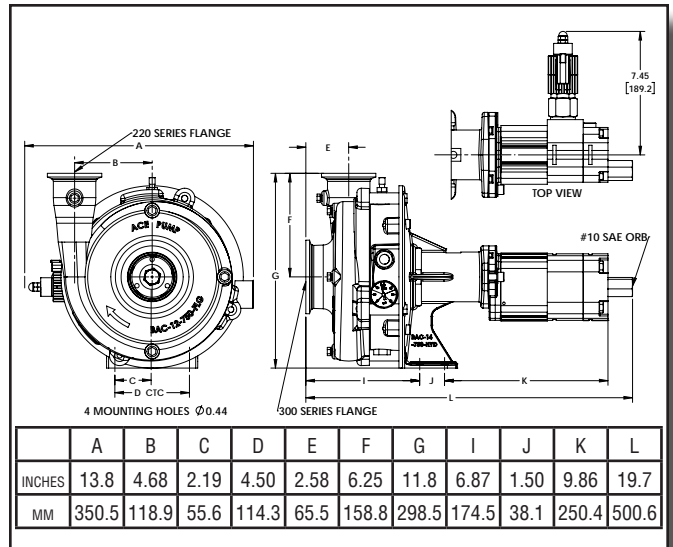
FMC-750F-HYD-M22-PWM

- Suction 300 Series Flange
- Discharge 220 Series Flange
- High Performance Pump
 - Maximum Flow 290 GPM (1098 LPM)
 - Maximum Pressure 150 PSI (10.3 BAR)
- Integrated Proportional 12V Control Valve for Precision Ag applications using Pulse Width Modulated (PWM) control signals
- WetSeal Technology
 - Prevents Run Dry Failures
 - Isolates Seals from Chemicals and Fertilizers
- Maximum Reliability
 - Operates at Lower RPM
 - Oversized Bearings
 - E-coat Corrosion Protection
 - High Efficiency 4000 PSI (275 BAR)
 - Pressure Plated Gear Motor

PERFORMANCE CHART

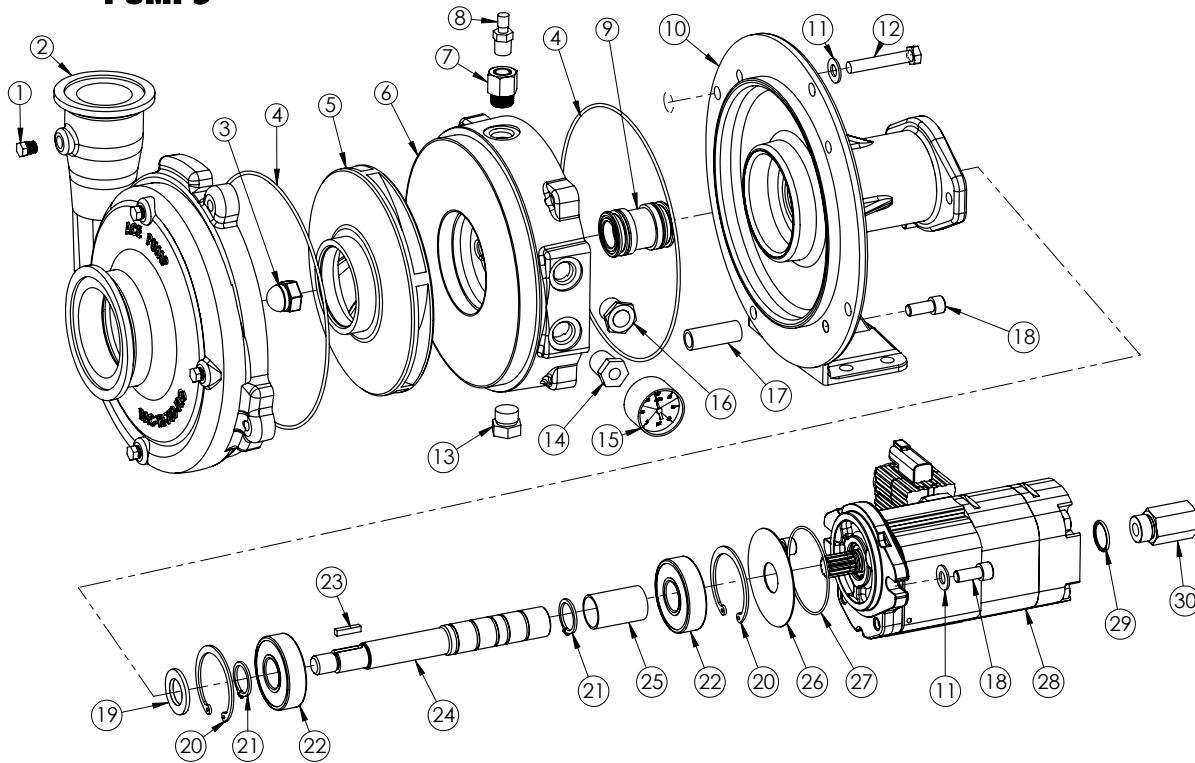


DIMENSIONS





FMC-750F-HYD-M22-PWM



REF. #	PART NUMBER	EDP #	DESCRIPTION	REQ.
1	BAC-53	41110	Pipe plug, 1/8" NPT	4
2	BAC-12-750-FLG	30158	Volute, 300 X 220 flange, cast iron, e-coated	1
3	40397	40397	Acorn nut, 5/8"-11 stainless steel	1
4 [Ⓛ]	ACAL-4	30009	O-ring, volute seal	2
5	BAC-26-750-CI	30182	Impeller, cast iron, e-coated	1
5	BAC-26-750-SS	30189	Impeller, 316 stainless steel (optional)	1
6	BAC-16-750	45264	Seal plate, cast iron, e-coated	1
7	41107	41107	Plug, #8 SAE X 1/4" FNPT, hex head, with o-ring	1
8	41316	41316	Air valve, 1/4" NPT	1
9 [Ⓛ]	BAC-7-750V	40147	Dual seal assembly	1
10	BAC-14-750-HYD	40333	Mounting frame, cast iron, e-coated	1
11	42701	42701	Washer, 3/8", volute discharge and motor mount	3
12	40952	40952	Cap screw, 3/8" NC x 2-1/2", hex head (volute)	4
13	41108	41108	Plug, SAE #8, hex head, with o-ring	1
14	44039	44039	Bushing, #8 SAE x 1/8" FNPT	1
15	50150	50150	Pressure gauge, 0-60 PSI, 1/8" NPT	1
16	55851	55851	Site gauge, #8 SAE, steel	1
17	45267	45267	Spacer, seal plate	4
18	41907	41907	Cap screw, 3/8" NC x 1", socket head (seal plate, motor mount)	6
19	BAC-54-650	41132	Slinger, 7/8" shaft	1
20	41943	41943	Snap ring, internal, frame	2
21	ACAL-32	30174	Snap ring, external, shaft	2
22	40875	40875	Ball bearing, sealed	2
23	41085	41085	Key, .188 x .188 x .875	1
24	BAC-6-750-HYD-SS-WS	40066	Shaft, 11T female spline, stainless steel	1
25	BAC-32-750	40793	Spacer, shaft	1
26	43414	43414	Pad, absorbent, M Series motor	1
27	43419	43419	O-ring, flange, M Series motor	1
28	BAC-75-HYD-M22-PWM	41336	Hydraulic motor, 18 GPM (65.9 LPM), with integrated valve	1
29	41445	41445	O-ring, #10 SAE fitting	2
30	BAC-78-10X10SAE	41442	Reverse check, #10 SAE male x #10 SAE female	1
* 31 [Ⓛ]	55032	55032	Barrier fluid, quart	1.32
Ⓛ	RK-FMC-750	52724	Repair kit, includes items 4 (2 pcs.), 9, and 31 (2 qts.)	--

* not shown in parts diagram

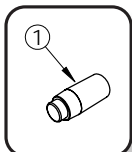
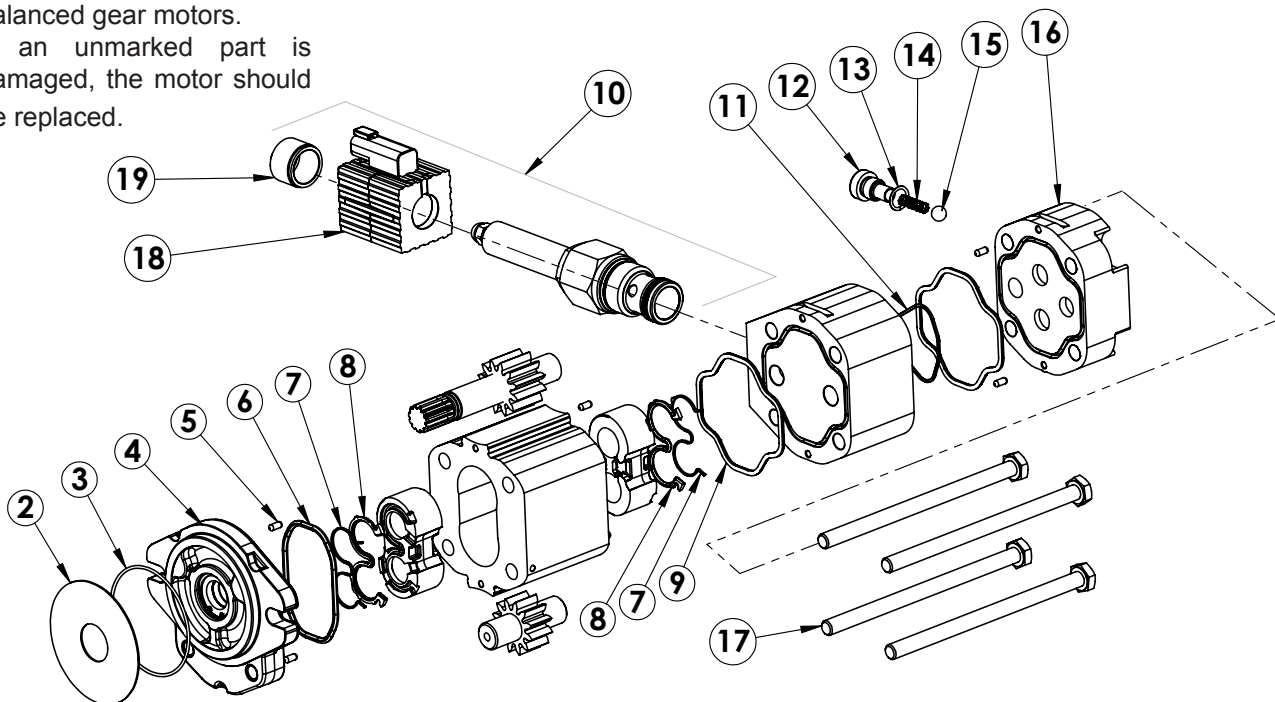


HYDRAULIC MOTOR PARTS LIST

BAC-75-HYD-M22-PWM

Ace M Series motors are high efficiency pressure balanced gear motors.

If an unmarked part is damaged, the motor should be replaced.



Important: The seal installation tool ① is required to install the shaft seal. This tool is included with the repair kit RK-BAC-75-M (40138). It prevents damage to the seal lips during installation over the splined shaft.

REF #	Part #	EDP #	DESCRIPTION	REQ.
1 ^①	43416	43416	Installation tool, shaft seal	1
2 ^①	43414	43414	Absorbent pad	1
3 ^①	43419	43419	O-ring, flange	1
4 ^①	43418	43418	Drive plate assembly, flange, M motors	1
5	43420	43420	Pin, motor assembly	4
6	43425	43425	Housing seal, front external	1
7	43430	43430	Anti-extrusion seal, M motors	2
8	43435	43435	Compensation seal, M motors	2
9	43440	43440	Housing seal, rear external	1
10	PWM-18-PRO-20	74226	Valve assembly, 12V proportional	1
11	41850	41850	O-ring, housing seal	1
12	43445	43445	Cap, coasting check	1
13	43450	43450	O-ring, coasting check cap	1
14	43455	43455	Spring, coasting check	1
15	43460	43460	Ball, coasting check	1
16	43465	43465	End plate, cover, #10 SAE end ports	1
17	43476	43476	Cap screw, motor assembly, hex head, M22-PWM	4
18	74228	74228	Coil, 12V for PWM-18-PRO-20	1
19	74232	74232	Nut, coil attachment, PWM-18-PRO-20	1
①	RK-BAC-75-M	40138	RK-BAC-75-M, Repair kit includes 1, 2, 3, & 4	--

REGULATING HYDRAULIC FLOW TO THE SPRAYER PUMP

There are three general types of hydraulic systems:

- 1) Load Sensing (LS), also known as Pressure-Flow Compensating (PFC) Closed Center
- 2) Pressure Compensating Closed Center (PC)
- 3) Open Center (OPEN)

This product is designed to operate on both Closed Center Hydraulic Systems. It should not be used with Open Center systems. Please consult the Tractor Hydraulic System Pump Selection Guide(HSG), Internet Hydraulic Selection Guide (IHSG) at www.AcePumps.com, or your tractor dealer to determine your tractor's hydraulic system.

All PWM controllers are slightly different in the terminology used and setup procedures. Please consult your controller documentation or their technical service department for additional assistance with your specific application and implement in use.

Link to Ace Pump
IHSG

<http://www.acepumps.com/ihsg/>



Link to Ace Pump
PWM Technical File

http://www.acepumps.com/_Assets/Literature/PWM_Technical_File.pdf



PWM Control Basics and Terminology
Updated 12/2015

PWM (Pulse Width Modulated) control systems are being used widely in modern liquid applications. The use of this technology is driven by the need in agriculture for precision application of fertilizers and chemicals. The goal is to apply what is needed at the correct time while minimizing input cost, preventing runoff which may contaminate water supplies, and eliminate drift.

The PWM signal is an efficient technique to control current to a proportional electrical hydraulic valve. The PWM signal switches on and off to achieve the required control current (see Figure 1). The duty cycle "D" refers to the "on" portion of the cycle. The duty cycle can be anywhere from 0 (signal always off) to 1 (signal always on).

Dither is a rapid, small variation in the control signal designed to keep the valve spool in motion. This movement is intended to avoid stiction and average out hysteresis.

Stiction keeps the valve spool from moving when control signal changes are small. When the valve spool finally moves it can overshoot the correct position.

Hysteresis is the tendency for the spool movement to be different if the signal is increasing or decreasing. This can happen even with the identical control signal.

Valve Settings & Performance

I-Min or Minimum PWM is the minimum control current induced into the control valve. This is typically set to the point where the control signal creates a response from the valve spool. For Ace Pumps, this is typically set to the point when our pump starts to turn or where a minimum application pressure is achieved. This eliminates the **Deadband** which is typical for all control valves (see Figure 2).

I-Max or Maximum PWM is the maximum control current supplied to the control valve. This is typically set to the point where the control signal results in maximum performance. For Ace Pumps, set this to achieve the maximum shut-off pressure recommended for the pump model.