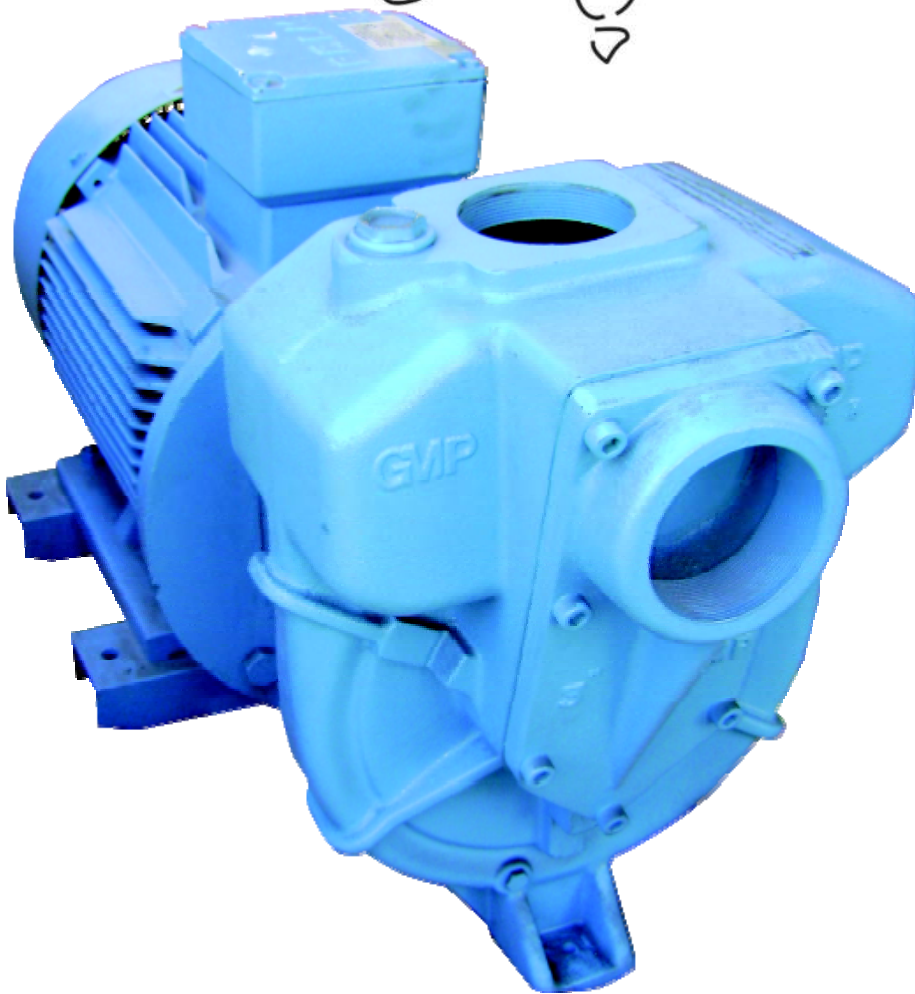

OPERATION MANUAL



Aussie GMP Electric Drive Revision: #0 (May 10)

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AUSSIE GMP ... HEAVY DUTY PUMPS THAT WORK

Aussie GMP electric drive pumps are available in the following configurations:

- Cast iron body, cast iron impeller..... standard pump and semi trash configurations.
- Zinc free bronze body, zinc free bronze impeller, 316 stainless steel fitted fasteners and plugs, stainless steel mechanical seal, 316 stainless steel shaft standard and semi trash design.
- Cast 316 grade stainless steel wetted parts including body, impeller and suction cover, 316 grade stainless steel drive shaft.....standard and semi trash design.
- All versions feature stainless steel shafts.

Please note **semi trash** design includes:

- Silicon carbide mechanical seal for abrasive liquids.
- Easy clean out front mounted ports (located below suction port) for ease of service.
- Stainless steel wear plate.

High and low pressure pumps

Aussie electric drive pumps are available in a wide range of configurations. These include:

- Open impeller design, high flow, medium head .
- Open impeller high head, medium flow .
- Closed impeller, high pressure .

Pumps are designed for high speed application, rated for operation up to 3600 rpm.

Optional Seals

A wide range of optional seals are available for Aussie GMP pumps to suit specific applications. These options include the following:

- Standard ceramic seal and Counterface.
- Ceramic seal stainless steel fitted.
- Viton seal kit.
- Silicon carbide seal kit.
- Tungsten carbide seal kit.

N.B. Combine Viton and tungsten carbide or silicon carbide for abrasive and corrosive liquids are also available on special request.

CONGRATULATIONS ON THE PURCHASE OF YOUR
AUSSIE GMP SELF PRIMING ELECTRIC DRIVE PUMP

PREPARATION FOR OPERATION

INSPECTION

Inspect unit for shipping damage immediately on receipt. If any visible damage exists note damage on shipping docket before signing. Notify your Distributor immediately of any damage to the shipment.

BASIC SUITABILITY CHECKS

Read these instructions carefully and satisfy yourself that you are comfortable with the operation and set up of the machine. Please note the following:

- Aussie GMP cast iron standard configuration pumps are suitable for pumping clean water and fluids that are chemically and mechanically non aggressive. (N.B some pumps can be expressly configured for corrosive applications. Check published data.)
- Fluids should be free of explosive substances with a maximum temperature of 70°C.
- Please use in a well ventilated place, providing protection from unfavourable weather conditions and with environmental temperatures not exceeding 40°C.
- Note pump is provided with mounting feet. For safety reasons please fix the pump down using the holes provided in the feet. Install the pump in a horizontal level position.

Note maximum suction depth for GMP pumps is 6 metres.

PIPEWORK RECOMMENDATIONS

Pipes must be fastened and anchored to their supports and connected in such a way that they do not transmit force, stress or vibration to the pump. The internal diameter of the pipe depends not only on their length but also on the flow rate to be produced. In no case must the pipe diameter be smaller than the diameter of the pump inlet or outlet.

Before installation check that all pipes are clean on the inside.

SUCTION HOSE OR PIPEWORK

Keep suction as short as possible with absolute minimum numbers of bends or connections.

Check for air leaks. Air leaks will prevent the pump priming correctly and substantially reduce pump performance. Suction hose or pipe work must slope upwards towards the pump so as to prevent formation of air pockets that could prevent priming or cause the pump to lose its prime. N.B. ingress of air to pump chamber will cause loss of prime and cavitation. This can lead to major pump failure.

Foot valves are not necessary with self priming pumps. We recommend the use of a good quality suction strainer to protect the pump from ingress of solids.

SUBMERGENCE

For best result ensure suction hose is immersed in water at least 3 times the depth of the diameter of the hose. **For operating below normal head fit a gate valve.**

DELIVERY PIPE

It is recommended to fit a check valve and regulating valve. The former i.e. the check valve should be mounted upstream from the regulating valve thus protecting the pump from water hammer and preventing the inverse flow through the impeller in the event of a sudden stopping of the electric motor/pump. The regulating valve is used to regulate the flow rate/head and absorb power. Fit a pressure gauge on the delivery pipe.

SETTING UP YOUR PUMP

STARTING THE PUMP

1. Connect to suitable power supply.
2. Fill pump with water via the priming plug on top of the pump, making sure that air is not trapped in the pump or pipe work.
3. Open gate valve on delivery line if fitted.
4. Start pump. Priming time varies up to 6 minutes according the suction height and speed of the pump.



Never attempt to operate pump without priming first. Extended dry operation will destroy pump seal. If unit has been operated dry, stop the engine immediately, allow the pump to cool before adding priming water.

Warning: Never run the pump dry

MAINTENANCE

1. Drain pump if it is not going to be used for any period of time, especially if there is a chance of the pump being exposed to freezing temperatures.
2. Check filter regularly to ensure it does not become blocked.
3. Check pump and pipe work for leaks regularly and fix any leaks immediately.
4. Refer to troubleshooting guide for further assistance if required.

MECHANICAL SEAL & COUNTERFACE OPTIONS

Check size of seal or counterface required on spare parts breakdown and refer to the tables below for options available.

MECHANICAL SEAL						
Carbon Graphite/ NBR	Carbon Graphite/ NBR/ AISI 316	Carbon Graphite/ Viton	Silicon Carbide/ NBR	Silicon Carbide/ Viton	Tungsten	Size
6332		5110	8429	8049	6333	15.32.13
6334	H395	7710	6781	F660	6336	16.32.13
6337	H396	5264	9075	F632	6338	19.39.13
6339	H397	5217	8404	F634	6340	25.47.14
6341	H398	5265	F976	L260	6342	32.54.15

COUNTERFACES				
Silicon Carbide/ NBR (OR VITON)	Allumina/Viton	Allumina/ NBR	Tungsten/NBR	Size
	7709	6346	5218	17.5.36.5,9.5
	9812	7702	F661	17.5.36.8
		6344		17-38-8
	5111	6344	5108	18.38.8
H826/NBR	F633	6349	6350	21.42.8
		8436		26.57.7
H614/VITON	6588	6353	5214	27.50.10
	5209	6359	5463	27.52.10
		6355		33-57-10
H828/NBR	5266		5447	34-57-10

SPECIFICATIONS

Electric drive open impeller transfer pumps

<i>Model</i>	<i>HP</i>	<i>Motor</i>	<i>Suct/Del</i>	<i>Total Head (m)</i>	<i>Capacity (l/m)</i>	<i>Cast Iron CAT number</i>	<i>Bronze CAT number</i>	<i>SS CAT number</i>
B1KQ-A	0.75	three phase 415v	1"x1"	15	130	-	EA5A	-
B2KQ-A	1.5	single phase 240v	2" x 2"	16	400	EA3G	-	-
B2KQ-A	2	single phase 240v	2" x 2"	19	500	EA3H	EA4N	-
B2KQ-A*	2	three phase 415v	2" x 2"	19	500	2761	EAS9	-
B2KQ-A*	3	three phase 415v	2" x 2"	19	500	-	EA7V	-
B3KQ-A	3	single phase 240v	3" x 3"	18	850	EAE1	EAT1/EABS	-
B3KQ-A	3	three phase 415v	3" x 3"	18	850	1226	EAT2	-
B4KQ-A	5.5	three phase 415v	4" x 4"	13	1700	EAFE	EALE	-
B3XR-A	5.5	three phase 415v	3" x 3"	28	1100	EAGH	EALB	EALP
B3XR-A	7.5	three phase 415v	3" x 3"	29	1550	EADM	-	EALR
B3XR-A	10	three phase 415v	3" x 3"	30	1700	EAHA	EADL	-
B4XR-A	15	three phase 415v	4" x 4"	28	2500	EAEM	-	-
B4XR-A	20	three phase 415v	4" x 4"	29	2700	EAFN	EAFG	-

Electric drive closed impeller transfer pumps

<i>Model</i>	<i>HP</i>	<i>Motor</i>	<i>Suct/Del</i>	<i>Total Head (m)</i>	<i>Capacity (l/m)</i>	<i>Cast Iron CAT number</i>	<i>Bronze CAT number</i>	<i>SS CAT number</i>
G2TMK-A	3HP	single phase 240v	2" x 2"	30	370	EA3S	-	-
G2TMK-A	3HP	three phase 415v	2" x 2"	30	370	EAT6	EA4R	-
G2TMK-A	4HP	three phase 415v	2" x 2"	30	450	EAT8	-	-
G3TMK-A	5.5HP	three phase 415v	3" x 3"	40	700	EAMV	-	-
G3TMK-A	7.5HP	three phase 415v	3" x 3"	50	850	EADH	-	EACB
G3TMK-A	10HP	three phase 415v	3" x 3"	50	980	EAHD	-	EABE
G3TMK-A	15HP	three phase 415v	3" x 3"	52	1360	EA5E	-	EACD
B1½ZPMA	10HP	three phase 415v	2" x 1½"	60	520	EAL5	-	-
B3ZPMA	20HP	three phase 415v	3" x 3"			EAMS	-	-
B3ZPMA	25HP	three phase 415v	3" x 3"	73	1220	EAH0	-	-

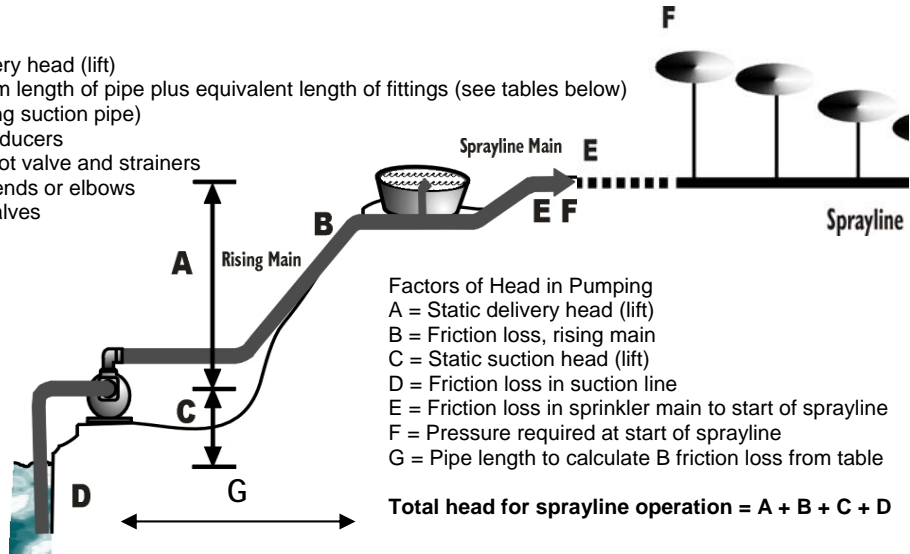
Electric drive semi trash pumps

<i>Model</i>	<i>Motor</i>	<i>Suct/Del</i>	<i>Total Head (m)</i>	<i>Capacity (l/m)</i>	<i>Solid size (mm)</i>	<i>Cast Iron CAT number</i>	<i>Bronze CAT number</i>	<i>SS CAT number</i>
B2KQ-A/ST	2HP single phase 240v	2" x 2"	17	490	19	EA3L	-	EA7T
B2KQ-A/ST	2HP 3 phase 415v	2" x 2"	17	490	19	EAR4	-	EA7E
B3KQ-A/ST	3 HP single phase 240v	3" x 3"	16	830	24	EA3M	-	-
B3KQ-A/ST	3 HP 3 phase 415v	3" x 3"	16	830	24	EAR6	-	-
B3XR-A/ST	5.5 HP 3 phase 415v	3" x 3"	28	1300	20	EAFV	-	-
B3XR-A/ST	7.5 HP 3 phase 415v	3" x 3"	29	1550	20	EANH	-	-
B3XR-A/ST	10 HP 3 phase 415v	3" x 3"	30	1700	20	EANL	-	-
B4KQ-A/ST	5.5 HP 3 phase 415v	4" x 4"	12	1900	35	EAGF	EAER	-
B4XR-A/ST	15HP 3 phase 415v	4" x 4"	29	2360	25	EAEM	-	-
B4XR-A/ST	20HP 3 phase 415v	4" x 4"	29	2600	25	EANM	-	-

PUMP SELECTION GUIDE

FRICITION FACTORS

- Suction head (lift) and Delivery head (lift)
 Friction head: calculated from length of pipe plus equivalent length of fittings (see tables below)
- length of pipe (including suction pipe)
 - equivalent length of reducers
 - equivalent length of foot valve and strainers
 - equivalent length of bends or elbows
 - equivalent length of valves



Factors of Head in Pumping
 A = Static delivery head (lift)
 B = Friction loss, rising main
 C = Static suction head (lift)
 D = Friction loss in suction line
 E = Friction loss in sprinkler main to start of sprayline
 F = Pressure required at start of sprayline
 G = Pipe length to calculate B friction loss from table

Total head for sprayline operation = A + B + C + D + E + F

SELF PRIMING PUMPS: Aussie Quik-Prime pumps are of a self priming centrifugal design. They have excellent priming characteristics and don't need foot valves in order to prime. Almost all pumps in the range prime to in excess of 7 metres, some to 8 metres. Self priming means that the operator does not have to fill the entire suction line before start up. All that is required is to fill the pump casing with water, start the pump and ejection of the water in the pump creates a vacuum which, working in conjunction with atmospheric pressure, causes water to be drawn up the suction line.

SUCTION LINE: Please note the entire suction line must be air tight. Suction lift is accomplished by developing a negative pressure at the pump intake. Thus atmospheric pressure applies the positive lifting force. Avoid sharp bends in the suction line and ensure that no part of the pipe is above pump level. Always reduce suction lift to the minimum. Suction lines must be large enough to minimise friction loss.

DIESEL DRIVE: Diesel engines have more torque but run slower than petrol engines. Diesel pumps shown are rated at 3600rpm. For continuous service run at 3000rpm.

Friction Loss Data:

Pipe frictions for Class 9 uPVC pipe AS12477 (metre head/100m length of pipe)

FLOW L/MIN	NOMINAL PIPE SIZE MM	25	32	40	50	65	80	100	125
2.5	0.03								
5	0.09	0.03	0.014						
10	0.31	0.12	0.055	0.019					
20	1.1	0.42	0.19	0.07	0.244				
25	1.7	0.63	0.3	0.11	0.035	0.18			
30	2.4	0.89	0.14	0.15	0.05	0.024			
40	3.8	1.4	0.63	0.23	0.078	0.038			
50	5.9	2.1	0.97	0.37	0.12	0.059	0.016		
60	8.3	3	1.4	0.5	0.16	0.079	0.022		
75	12.0	4.5	2.1	0.73	0.25	0.12	0.033	0.015	
100	20.0	7.4	3.4	1.2	0.41	0.2	0.053	0.024	
125	29.0	11.0	5.2	1.8	0.59	0.3	0.083	0.037	
150	42.0	15.0	7.1	2.6	0.85	0.41	0.11	0.048	
175	57.0	21.0	9.5	3.5	1.1	0.54	0.15	0.067	
200	72.0	27.0	12.0	4.5	1.5	0.7	0.2	0.085	
225	81.0	24.0	15.0	5.5	1.7	0.86	0.25	0.1	
250	104.0	41.0	18.0	6.6	2.0	1.0	0.3	0.12	
275		48.0	21.0	7.7	2.5	1.2	0.34	0.15	
300		56.0	25.0	8.9	3.1	1.4	0.4	0.18	
325		66.0	29.0	10.0	3.5	1.6	0.46	0.2	
350		77.0	33.0	12.0	4.0	1.8	0.53	0.23	
375		84.0	37.0	13.0	4.5	2.1	0.6	0.26	
400		91.0	42.0	15.0	5.1	2.4	0.68	0.29	
425		100.0	48.0	17.0	5.7	2.7	0.75	0.33	
450		110.0	53.0	19.0	6.4	3.1	0.82	0.36	
475		118.0	58.0	20.0	6.8	3.3	0.9	0.39	
500			63.0	22.0	7.3	3.5	0.98	0.42	
550			73.0	26.0	8.8	4.2	1.2	0.49	
600			84.0	31.0	10.0	4.8	1.4	0.56	
650			95.0	35.0	11.0	5.5	1.6	0.65	
700		109.0	41.0	13.0	6.4	3.3	0.9	0.39	
750			47.0	15.0	7.3	3.5	1.0	0.42	
800			52.0	17.0	8.3	3.8	1.1	0.45	
850			57.0	19.0	9.1	4.1	1.2	0.48	
900			61.0	21.0	10.0	4.5	1.3	0.51	
950			66.0	23.0	11.0	4.9	1.4	0.54	
1000			74.0	25.0	12.0	5.4	1.5	0.58	

Friction Loss due to Pipe Fittings

Establish the number of fittings and their equivalent pipe lengths. Add this to pipe length. From correct table above determine friction loss.

Size (mm)	Foot/check valve	Reducer (2/1)	90° Elbow	90° Bend	Gate valve	Standard Tee
20	9	0.23	0.5	0.4	0.13	1.4
25	10	0.28	0.8	0.5	0.17	1.8
32	12	0.36	1	0.6	0.22	2.2
40	15	0.46	1.3	0.8	0.28	2.8
50	20	0.57	1.6	1	0.35	3.5
80	31	0.8	2.5	1.6	0.56	5.5
100	40	1.2	3.3	2	0.7	7

TROUBLESHOOTING GUIDE

Symptoms	Cause	Action
Failure to pump	Suction air leak	Check and correct hose and couplings
	Pump not properly primed	Prime pump correctly
	Speed too low or head too high	Consult pump specialist
	Not enough head to open check valve	Consult pump specialist
	Air leak	Check and rework suction line
	Blocked suction	Unblock suction
	Excessive suction lift	Consult pump specialist
Reduced performance	Air pockets or small air leaks in suction line	Locate and correct
	Obstruction in suction line or impeller	Remove obstruction
	Insufficient submergence of the suction pipe	Consult pump specialist
	Excessively worn impeller or wear ring	Replace impeller and/or wear ring
	Excessive suction lift	Consult pump specialist
	Wrong direction of rotation	See start-up instructions
Engine or motor over-loaded	Speed higher than planned	Reduce speed
	Liquid specific gravity too high	Consult pump specialist
	Liquid handled of greater viscosity than water	Consult pump specialist
	Too large an impeller diameter	Trim impeller
	Low voltage	Consult power supplier
	Stress in pipe connection to pump	Support piping properly
	Packing too tight	Loosen packing gland nuts
Excessive noise	Misalignment	Align all rotating parts
	Excessive suction lift	Consult pump specialist
	Material lodged in impeller	Dislodge obstruction
	Worn bearings	Replace bearings
	Impeller screw loose or broken	Replace
	Cavitation (improper suction design)	Correct suction piping
	Wrong direction of rotation	See start-up instructions
Premature bearing failure	Balance line plugged or pinched	Unplug or replace
	Worn wear rings	Replace
	Misalignment	Align all rotating parts
	Suction or discharge pipe not properly supported	Correct supports
	Bent shaft	Replace shaft
	Water or contaminates entering bearings	Protect pump from environment
	Lubrication to bearings not adequate	Check manual
	Wrong type of lubrication	Check manual
Electric motor failure	High or low voltage	Check voltage with voltage metre
	High electric surge	Monitor voltage and consult power supplier
	Poor electric connection	Turn power off, clean and check connections
	Overloads	Check amperage. Do not exceed nameplate full load amperage
	Bearing failure	Change bearings in motor
	Cooling vent plugged (rodent, leaves, dirt, etc.)	Install proper screens
	Moisture or water in motor	Protect pump from environment
Rapid wear on coupling cushion	Misalignment	Align
	Bent shaft	Replace shaft

Exploded views and parts lists for all pumps are available to download from the Aussie Pumps website customer service page. (www.aussiepumps.com.au)

WARRANTY

All Aussie GMP pumps are guaranteed to be free of faulty workmanship for a period of 2 years from the date of installation.

- Repairs carried out by Aussie Pumps Service Division on products outside the guarantee period are guaranteed to be free of faulty workmanship or material for a period of three (3) months after the repair.
- Warranty is deemed to apply to failures due to faulty workmanship or materials and does not apply to fair wear and tear, improper installation or application, the users failure to carry out maintenance, or as a result of the product's use for purposes for which it was not designed.
- Aussie Pumps is not liable for any loss of profit or consequential or indirect special loss arising from defects in any of its products. Moreover,
- Aussie Pumps will not be liable for damage or injury of any kind whatsoever arising directly or indirectly from product defects.
- Aussie Pumps' liability under the terms of the company's guarantee or warranty is limited to any one of the following:
 - replacement of the product with a suitable equivalent;
 - repair of the product;
 - return of the product for refund of purchase price;
 - payment for the cost of having the product repaired;
 - supply of replacement services;
 - payment of the cost of having services supplied again.

Aussie Pumps reserves the right to choose the lowest cost option of the above.

Reliable Products ...

Reliable People



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