

Aussie
GMP

OPERATION & INSTALLATION MANUAL



Aussie GMP Hydraulic & Bare Shaft Pumps Revision: #2 (July 2021)



Read this manual carefully before
installing and operating this pump



Aussie Pumps

AUSSIE GMP INSTALLATION & OPERATING INSTRUCTIONS

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AUSSIE GMP ... HEAVY DUTY PUMPS THAT WORK

Aussie GMP hydraulic & bare shaft drive pumps are available in the following configurations:

- **Cast iron body**, cast iron impeller..... semi trash configurations.
- **NiAl bronze body**, NiAl bronze impeller, 316 stainless steel fitted fasteners and plugs, stainless steel mechanical seal, 316 stainless steel shaft.
- **Cast 316 grade stainless steel** wetted parts including body, impeller and suction cover, 316 grade stainless steel drive shaft.
- 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 GMP 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. Combination 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 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.
- Pump should be installed in a **well ventilated** place, protected from unfavourable weather conditions and with environmental temperatures not exceeding 40°C.
- Note pump is provided with mounting feet or on a base plate. For safety reasons please fix the pump down using the holes. Install the pump in a horizontal, level position on a firm foundation.

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.



AVOID DRY RUNNING ... seals may be damaged and result in a leak. This is not covered by warranty.

SUCTION HOSE OR PIPEWORK

Keep suction as short as possible with absolute minimum numbers of bends or connections. If bends are required, use a long radius curves to reduce internal turbulence and therefore friction loss.

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 regulating valve down stream from the pump. The regulating valve is used to control the flow rate/head to ensure the pump is working within its performance curve. Fit a pressure gauge on the delivery pipe.

Do not operate pump against a closed discharge valve as pump liquid could overheat and seals may be damaged.



BARE SHAFT

When setting up bare shaft pumps with either coupling or pulley drive take care to align pump correctly. Mount pump on firm base. Bare shaft pumps may be driven by either diesel engine, electric motor or long coupled hydraulic drive.

HYDRAULIC MOTOR DRIVE PUMPS

HYDRAULIC SYSTEM REQUIREMENTS:

The hydraulic motor driven pump can be operated on either a closed centre or open centre hydraulic system.

The maximum system requirement is dependent on the hydraulic motor used on the pump. Check hydraulic pump specifications to ensure correct match. Consult a Hydraulic engineer for installation prior to fitting.

HYDRAULIC MOTOR INSTALLATION

NB: A drain line to tank must be run for reversible motors For input flow allow volumetric efficiency of 90%. Output KW figures allow for overall efficiency of 82% Output torque figures allow for mechanical efficiency of 85%.

Check hydraulic pump specifications to ensure correct match. If in doubt consult a hydraulic installation engineer.

INSTALLATION GUIDELINES

MOTOR

The direction of rotation of single-rotation motor must be the same as that of the drive shaft.

Check that the coupling flange correctly aligns with the transmission shaft and the motor shaft.

Flexible couplings should be used (never rigid fittings) which will not generate an axial or radial load on the motor shaft.

TANK

Tank capacity must be sufficient for the system's operating conditions (~ 3 times the amount of oil in circulation) to avoid overheating of the fluid.

A heat exchanger should be installed if necessary.

The intake and return lines in the tank must be spaced apart (by inserting a vertical divider) to prevent the return-line oil from being taken up again immediately.

HYDRAULIC MOTOR MALFUNCTIONS

Most motor problems are caused by improper fluid, poor maintenance, or improper operation. There must be adequate, clean fluid of the proper quality and viscosity.

Regular maintenance should include checks for leaks in lines and connections. Failure to fix these could result in dirt and air entering the system, lower pressure and may result in erratic operation.

If the motor is not installed correctly the resulting misalignment can cause premature bearing wear and lead to lost efficiency. It can also reduce the torque and increase friction drag and heating, and result in shaft failure.

FILTERS

We recommend filtering the entire system flow.

Filters on suction and return line must be fitted in according to the contamination class as indicated by the hydraulic motor manufacturer.

HYDRAULIC FLUID

Use hydraulic fluid conforming to ISO/DIN standards, having viscosity as specified in hydraulic motor manufacturer.

Avoid using mixtures of different oils which could result in decomposition and reduction of the oil's lubricating power.

For more information refer to the hydraulic motor manual ... call Aussie for a copy.

START UP MOTOR

Check that all circuit connections are tight and that the entire system is completely clean.

Insert the oil in the tank using a filter.

Bleed the circuit to assist in filling.

Set the pressure relief valves to the lowest possible setting. Turn on the system for a few moments at minimum speed, then bleed the circuit again and check the level of oil in the tank.

PERIODIC CHECKS—MAINTENANCE

Keep the outside surface clean, especially in the area of the drive shaft seal.

Abrasive dust can accelerate wear on the seal and cause leakage.

Replace filters regularly to keep the fluid clean. The oil level must be checked and oil replaced periodically depending on the system's operating conditions.

PUMP OPERATION

STARTING THE PUMP

DO NOT START THE PUMP IF THERE IS NO WATER IN THE PUMP BODY.

1. 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.
2. Open gate valve on delivery line if fitted.
3. Start pump. Priming time varies up to 6 minutes according to 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 immediately, allow the pump to cool before adding priming water.

Warning: Never run the pump dry.

Check the pump is working within its rated performance range as indicated on the data plate. If not, adjust the regulating valve.

MAINTENANCE & STORAGE

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.

LONG TERM STORAGE

Pump should be both stored in a warm and dust-free environment with a relative humidity of 40 to 60%.

Under other conditions further protection is required. Contact Aussie Pumps for Long Term Storage Instruction sheet.

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)	Alumina/ Viton	Alumina/ 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

REJUVENATION KITS

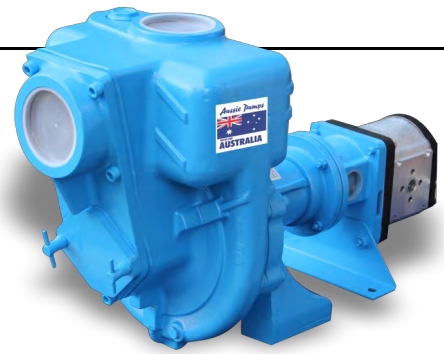
Aussie make servicing your GMP pump simple.

Order a complete rejuvenation kit and get all the seals, gaskets and counterface required during a standard service. You even get a complete check valve.

Simply state the CAT number of your pump, and we'll match it to the right rejuvenation kit.



SPECIFICATIONS



Cast Iron hydraulic drive semi trash pumps

Port size (in/out)	Model	CAT No.	PSI	Total Head (m)	Capacity (l/m)	Solid size (mm)	Hydraulic requirements at 3,000 rpm	Rej Kit
2" x 2"	B2KQ-A/ST	AA9A/AA6U	25	18	440	19	8.5cm ³ /rev, 100 bar (3kW)	R515
		AARF (ss impeller)						
3" x 3"	B3KQ-A/ST	AA5B/AA7U	22	16	900	27	8.5cm ³ /rev, 100 bar (3kW)	R517
	B3XR-A/ST	ASM8	43	31	1500	35	22cm ³ /rev, 150 bar (7kW)	R521
		ASD9	43	31	1500	35	35cm ³ /rev, 100 bar (12.5kW)	R521
	G3TMK-A/ST	ASM9	77	47	850	16	22cm ³ /rev, 150 bar (7kW)	
4" x 4"	B4KQ-A/ST	ASM7	20	14	1600	37	22cm ³ /rev, 150 bar (7kW)	
		ASD8	20	14	1600	37	35cm ³ /rev, 100 bar (12.5kW)	
	B4XR-A/ST	ASE9	42	30	2200	39	35cm ³ /rev, 100 bar (12.5kW)	



NiAl Bronze & 316 Stainless Steel transfer pumps

Port size (in/out)	Model	CAT No.	PSI	Total Head (m)	Capacity (l/m)	Hydraulic requirements at 3,000 rpm	Rej Kit
NIAL bronze - Marine Grade ... stainless steel plugs & fasteners							
2" x 2"	B2KQ-A/B	AAT3/AAW1	25	18	440	8.5cm ³ /rev, 100 bar (3kW)	R608
3" x 3"	B3KQ-A/B	AA3G/AA1Q	22	16	900	8.5cm ³ /rev, 100 bar (3kW)	
4" x 4"	B4KQ-A/B		21	15	1520	35cm ³ /rev, 100 bar (12.5kW)	
3" x 3"	B3XR-A/B		43	31	1500	35cm ³ /rev, 100 bar (12.5kW)	
4" x 4"	B4XR-A/B		42	30	2200	35cm ³ /rev, 100 bar (12.5kW)	
Stainless Steel—316 Grade for corrosive applications							
3" x 3"	B3XR-A/X		43	31	1500	35cm ³ /rev, 100 bar (12.5kW)	
4" x 4"	B4XR-A/X	ASFN	42	30	2200	35cm ³ /rev, 100 bar (12.5kW)	



TROUBLESHOOTING GUIDE

Symptoms	Cause	Action
Suction failure	Air leak in suction hose or connections	Check and correct hose and couplings
	Pump not properly primed	Prime pump correctly
	Speed too low or head too high	Consult pump specialist
	Blocked suction line	Unblock suction
	Excessive suction lift	Check pump specification
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	Check pump specification
Engine or motor overloaded	Wrong direction of motor rotation	Refer to installation instructions
	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
Excessive noise	Stress in pipe connection to pump	Support piping properly
	Misalignment	Align all rotating parts
	Excessive suction lift	Check pump specification
	Material lodged in impeller	Dislodge obstruction
	Worn bearings	Replace bearings
	Impeller screw loose or broken	Replace
	Cavitation (improper suction design)	Check flow not impeded, i.e. Strainer blocked, gate valve part close etc Check duty point of application matched pump specs
Premature bearing failure	Wrong direction of rotation	Refer to installation instructions
	Misalignment	Align all rotating parts
	Pump not secured	Secure pump using mounting points to a firm foundation
	Suction or discharge pipe not properly supported	Correct supports
	Bent shaft	Replace shaft
	Water or contaminants entering bearings	Protect pump from environment
	Lubrication to bearings not adequate	Check manual
Electric motor failure	Wrong type of lubrication	Check manual
	High or low voltage	Check voltage with voltage metre
	High electric surge	Monitor voltage and consult power supplier
	Pump running at open flow (no head)	Check duty point of application matched pump specs
	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

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

AUSSIE GMP WARRANTY

All Aussie GMP pumps are guaranteed to be free of faulty workmanship for a period of 3 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.

IMPORTANT

Complete and mail back warranty card immediately, or apply online

<https://aussiepumps.com.au/warranty-registration/>

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Aussie Pumps



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