

The pump with a

PUNCH!

**SOUTHERN
CROSS
POWER
PUMPS**

Choosing a pump must be a well-considered proposition. Much power can be wasted by an inefficient pump — water production can be disappointing when the pump is not designed for the job it is called upon to do. Whenever you decide a pump is needed, it is wise to consider the advantages of a Southern Cross Power Pump — because of its high efficiency, its versatility and its capacity to deliver a constant supply against widely varying heads.

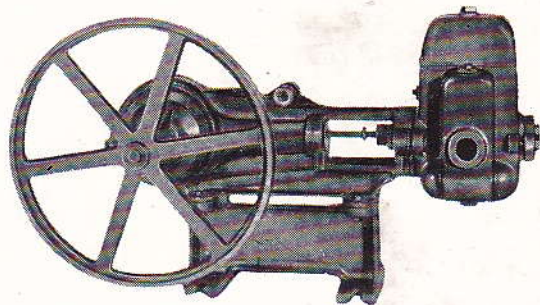
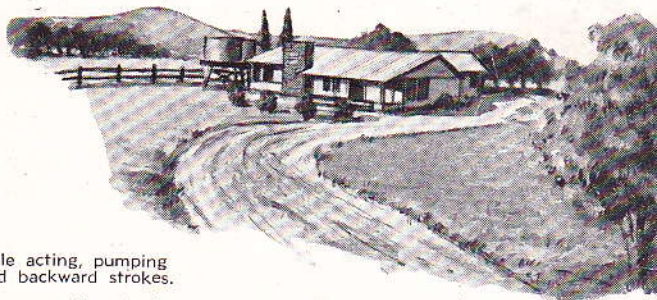
Generally, a Power Pump is used to pump from surface supplies such as creeks, dams, earth tanks, etc., and can be used as a primary unit or as an auxiliary to your Southern Cross Windmill Plant, during periods when there is no wind. It is particularly suitable for pumping over long distances.

Thousands of Southern Cross Power Pumps are in service all over Australia — pumping water for stock, pumping water for irrigation, pumping water for domestic supplies. In addition to being ideally suited for driving by Southern Cross Engines, the Geared Self Oiling Power Pumps and the $1\frac{1}{2}$ in. x $1\frac{3}{4}$ in. stroke Power Pump can be supplied with an Electric Motor Mounting to form a very neat and compact Electric Motor Driven Unit.

Check the following pages for specifications and pumping capacities of the various Southern Cross Power Pumps available.

SOUTHERN CROSS 1½" BORE x 1¾" STROKE DOUBLE ACTING POWER PUMP—

This pump was specially developed to provide an economical home water supply from creeks, wells, spearpoints, etc., and is ideal for fighting fires, watering gardens, tennis courts and lawns and filling quickly overhead tanks.



1½" Bore x 1¾" Stroke Power Pump

TYPE: Single cylinder, double acting, pumping on both the forward and backward strokes.

CAPACITY: The maximum capacity of the pump is 260 gallons per hour against 150 ft. head at a pulley speed of 200 r.p.m.

PIPE CONNECTIONS: The suction pipe connection is 1 inch and the discharge pipe connection is ¾ inch.

LUBRICATION: Lubrication of the drive mechanism is automatic, provided the oil level is kept up to the bottom of the oil filler plug.

ROTATION: The pump may be run in either direction.

PACKING GLAND: Adjustable screwed brass type using graphited packing.

Weight: 73 lbs.

VALVES: Special quality rubber, spring loaded, with brass seats. Easily accessible through covers.

PUMP BARREL: Drawn brass tube.

PULLEY: Flat belt pulley 14 inches diameter x 1 inch face is supplied and included in the price of the pump.

ELECTRIC MOTOR MOUNTING BRACKET: If required, an electric motor mounting bracket for fitting on the pump can be supplied at a small extra charge.

PRICE £20

F.O.R. Toowoomba, Brisbane, Rockhampton, Townsville, Sydney, Melbourne, Adelaide, Perth or delivered Fremantle.

SOUTHERN CROSS GEARED DOUBLE ACTING POWER PUMPS, "X" PATTERN

This pump with 3 inch bore and at 50 strokes per minute has a capacity of 700 gallons per hour; with a 4 inch bore 1220 gallons; with 5 inch bore 1920 gallons. Power required for maximum head is only 2 h.p. (See table below). It is designed for pumping from surface supplies such as creeks, dams and shallow wells and is particularly suited for drive by Southern Cross Diesel Engines and Electric Motors, forming compact and sturdy pumping units.

SPECIFICATION:

TYPE: Single cylinder, double acting, pumping on both the forward and backward strokes.

GEAR DRIVE: Machine cut gears on steel shafts

GEAR RATIO: 4.667 to 1.

RECIPROCATING MECHANISM: The drive is transferred from crankpins on the drive gear shaft through two steel connecting rods, fitted with replaceable white-metal bearings, to a crosshead to which a corrosion resisting brass plunger rod is attached.

PLUNGER ASSEMBLY: Fitted with two opposed leather buckets and removable through Pump End Plate.

PUMP BARREL: Replaceable heavy drawn brass tubing.

VALVES: Special quality rubber, spring loaded, with gunmetal seats. Easily accessible through port covers.

PACKING GLAND: Adjustable screwed brass type, using graphited rubber packing.

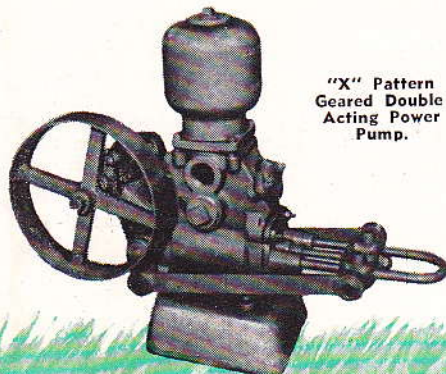
AIR CHAMBER: An air chamber is fitted as standard.

Mark	PUMP		Screwed For		Pump Strokes Per Minute	Pulley Speed r.p.m.	Capacity per hour	Maximum head in feet	Power reqd. for Max. head	WEIGHT		PRICE
	Bore	Stroke	Suction	Discharge						Nett	Packed	
XA	3 in.	5 in.	1½"	1¾"	50	233	700 Gls.	230	2 h.p.	2 cwt.	3 cwt.	£39 10 0
XB	4 in.	5 in.	2"	1¾"	50	233	1220 Gls.	140	2 h.p.	2½ cwt.	3½ cwt.	£44 10 0
XC	5 in.	5 in.	2½"	2"	50	233	1920 Gls.	95	2 h.p.	2½ cwt.	3½ cwt.	£50 10 0

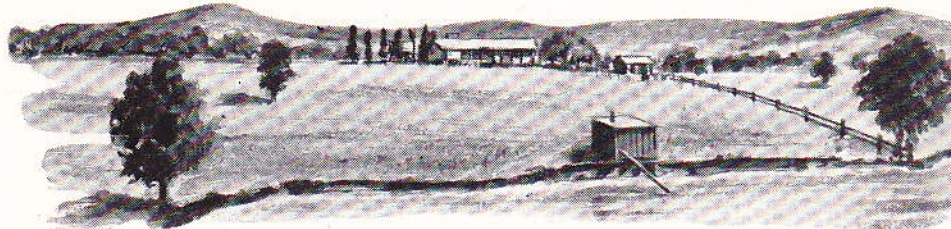
The following Flat Belt and Vee Belt Pulleys can be supplied, if required, at prices shown:—

FLAT BELT PULLEY 15 in. Diameter x 3 in. Face £3/-/-
VEE BELT PULLEY 15½ in. P.C.D. 4 "A" Groove £5/17/6

Prices are F.O.R. Toowoomba, Brisbane, Rockhampton, Townsville, Sydney, Melbourne, Adelaide, Perth, or delivered Fremantle



"X" Pattern Geared Double Acting Power Pump.



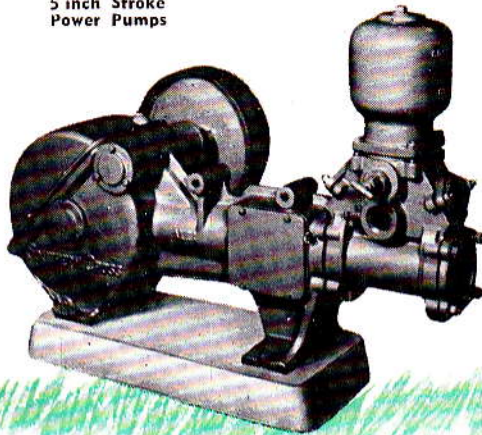
SOUTHERN CROSS GEARED SELF-OILING HIGH HEAD POWER

These are double acting Power Pumps assembled to a totally-enclosed self-oiling drive gear. Southern Cross manufactures two models—one of five inch stroke (illustrated as Fig. 2549) and one of six inch stroke (illustrated on next page as Fig. 2550).

They are high efficiency pumps meant for the bigger jobs and are particularly suited for pumping comparatively large quantities of water against high heads, and for pumping over long distances.

All the working parts of Southern Cross Geared Self Oiling Power Pumps are fully enclosed for protection against weather and dirt; lubrication to all working parts is automatic, so the pumps can be run for long periods and can be depended on to give years of trouble-free service.

Fig. 2549
5 inch Stroke
Power Pumps



WATER BY-PASS

A water by-pass is fitted to "X" Pattern Pumps and the Geared Self Oiling Power Pumps—Figs. 2549 and 2550. A Water By-pass is fitted to enable the engine to be relieved of most of the load when starting. This by-pass is opened before the unit is started so that some of the water is by-passed from the discharge back into the suction.

Then, when the engine has attained its correct speed, the by-pass is closed and all the water is pumped along the discharge line.

AIR CHAMBER

On the Geared Self Oiling Power Pumps, Fig. 2549 and Fig. 2550, and the "X" Pattern Geared Power Pumps, an Air Chamber is fitted as standard. The purpose of an Air Chamber on the discharge side of the pump is to even out the flow of water through the pipe lines and prevent shock loads which could cause damage, particularly when pumping through long discharge pipes. The action of the Air Chamber in maintaining an even flow of water through the discharge line is as follows:—

During the discharge stroke, some of the water being pumped is forced into an Air Chamber thus compressing the air in the chamber. When the pump plunger reaches the end of the discharge stroke, the compressed air in the Air Chamber expands, forcing water through the discharge pipe. This expansion of air keeps the water in motion until the next discharge stroke of the pump begins.

ELECTRIC MOTOR MOUNTING

If required, electric motor mounting rails for fitting on the drive gear, can be supplied at a small extra charge. On the Geared Self Oiling Power Pumps, Fig. 2549 and Fig. 2550, and the 1½" x 1¾" stroke Power Pump, an Electric Motor Mounting Bracket can be supplied for fitting on top of the Drive Gear. This makes a very compact electric motor driven pumping unit and saves considerably on installation costs.

HOW TO ESTIMATE THE QUANTITY OF WATER REQUIRED DAILY—

To estimate the quantity of water required daily allow: 1 gal. per day per head of sheep; 10 gals. per day per head of cattle or horses; 20 gals. per day per head of dairy cattle; 50 gals. per day per person for domestic uses: that is—household purposes, septic tank installations, shower baths, etc., in an average home; 3000 gals. per day per acre for garden purposes. Thus—if garden is ¼ of an acre, approximately 750 gals. per day are required. (This is based on providing the equivalent of 1 inch of rain per week over the garden).

SPECIFICATIONS

SPECIFICATIONS FOR BOTH FIG. 2549 AND FIG. 2550

TYPE: Single cylinder, double acting, pumping on both the forward and backward strokes.

PIPE CONNECTIONS: On 2½ in. and 3 in. Fig. 2549 Pumps, the suction is taken from the Water By-Pass side and the discharge is taken from the opposite side.

On the larger Fig. 2549 Pumps, the discharge is taken from the opposite side to the Water By-Pass and the suction may be taken from either side.

On the Fig. 2550 Pumps, the suction and discharge may be taken from either side of the Pump, or the suction from one side and the discharge from the other.

LUBRICATION: Automatic flood lubrication of all moving parts from channels kept full by rotation of main gear.

GEAR DRIVE: Machine cut gears on steel shafts supported between wide replaceable bearings.

GEAR RATIOS: The gear ratios are—
5.114 to 1 for the 5 in. stroke Pumps.
6.07 to 1 for the 6 in. stroke Pumps.

GEARBOX COVER: A removable top cover is fitted to the gearbox to facilitate inspection.

ROTATION: The pump may be run in either direction and, if necessary for any particular installation, the pulley may be transferred to the opposite side of the pump from that illustrated.

RECIPROCATING MECHANISM: Reciprocating motion by eccentric integral with driven gear operating through connecting rod and cross-head on to corrosion resisting brass plunger rod. Splash guard on plunger rod prevents water getting into pump drive gear.

PLUNGER ASSEMBLY: Fitted with two opposed leather buckets and removable through Pump end plate.

PUMP BARREL: Replaceable heavy drawn brass tubing.

VALVES: Special quality rubber, spring loaded, with gunmetal seats: Easily accessible through port covers.

PACKING GLAND: Adjustable flanged brass type, using graphited rubber packing.

WEIGHTS:

Mark	Nett Weight	Packed Weight
AN-E	4½ cwt.	5½ cwt.
AN-F	4½ cwt.	5½ cwt.
AN-G	4½ cwt.	6 cwt.
AN-H	4½ cwt.	6 cwt.
AN-J	4½ cwt.	6 cwt.
AN-I	8½ cwt.	10½ cwt.
AN-K	8½ cwt.	10½ cwt.
AN-L	8½ cwt.	10½ cwt.

FREE ADVISORY SERVICE

To obtain the most efficient and economical pump and power unit combination, call in men experienced in water pumping problems. This advisory service of Southern Cross is free and places you under no obligation whatsoever. To obtain the service, simply call



your nearest Southern Cross Office and ask for a Water Technician to call. Your request will receive prompt attention.

PRICES OF SOUTHERN CROSS POWER PUMPS — Figs. 2549 and 2550

Mark	Bore	Stroke	Suct.	Disc.	Price
AN-E	2½ in.	5 in.	1½ in.	1½ in.	£75
AN-F	3 in.	5 in.	1½ in.	1½ in.	£83
AN-G	3½ in.	5 in.	2 in.	1½ in.	£108
AN-H	4 in.	5 in.	2 in.	1½ in.	£111
AN-J	5 in.	5 in.	2½ in.	2 in.	£121
AN-I	4 in.	6 in.	2½ in.	2½ in.	£192
AN-K	5 in.	6 in.	3 in.	3 in.	£203
AN-L	6 in.	6 in.	4 in.	4 in.	£218

21½ in. dia. x 4 in. Face Flat Belt Pulley for Fig. 2549 Pump	£5 15 0
23 in. dia. x 6 in. Face Flat Belt Pulley for Fig. 2550 Pump	£11 0 0
21½ in. P.C.D. 4 "A" Groove Vee Belt Pulley for Fig. 2549 Pump	£9 5 0
21½ in. P.C.D. 6 "B" Groove Vee Belt Pulley for Fig. 2549 Pump	£14 10 0
21½ in. P.C.D. 6 "B" Groove Vee Belt Pulley for Fig. 2550 Pump	£14 10 0
28⅜ in. P.C.D. 5 "C" Groove Vee Belt Pulley for Fig. 2550 Pump	£21 10 0

The selection table overleaf shows the Pulleys to be used when these pumps are incorporated in Diesel or Electric Motor Units.

Warranty

The Company agrees with the original purchaser of each Southern Cross Pump that, at any time within twelve months from the date of despatch of such Pump, the Company will supply new part or parts without charge at the original point of despatch to replace any part or parts which, on return freight prepaid, prove to the satisfaction of the Company to be defective in material and workmanship.

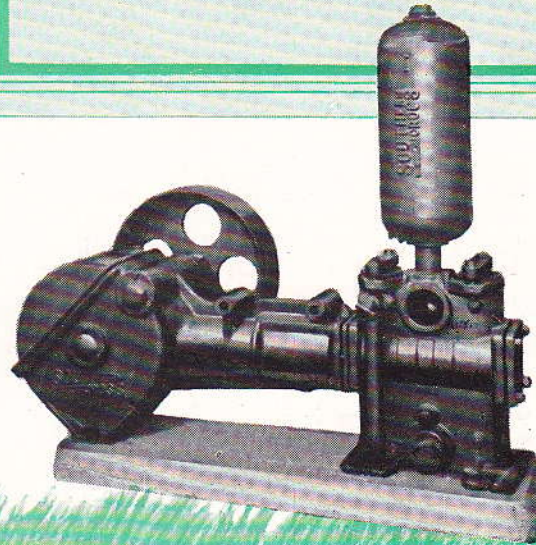


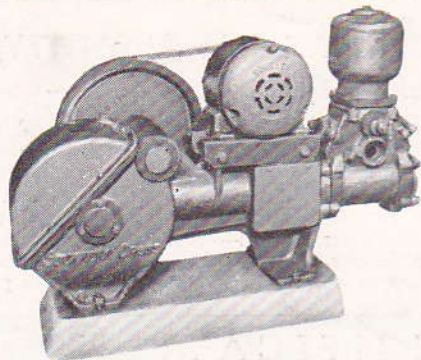
Fig. 2550
6" Stroke
Power Pump

Prices are F.O.R. Toowoomba, Brisbane, Rockhampton, Townsville, Sydney, Melbourne, Adelaide, Perth or delivered Fremantle

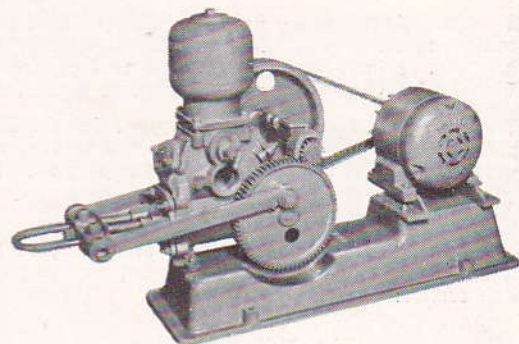
PUMPING TABLE

Mark	Bore	Stroke	Suction	Screwed Discharge	Stks. per Minute	Pump Pulley R.P.M.	Gal. per Hour after allowing 10% reduction under pressure	MINIMUM H.P. REQUIRED AT PUMP PULLEY FOR HEADS OF:				
								150 ft.	225 ft.	300 ft.	400 ft.	500 ft.
AN-E	2½ in.	5 in.	1½ in.	1½ in.	40	210	355	1.2	1.6	2.0	2.5	3.0
					50	260	440	1.3	1.8	2.3	3.0	3.7
					60	315	530	1.5	2.1	2.8	3.6	4.4
AN-F	3 in.	5 in.	1½ in.	1½ in.	40	210	520	1.3	1.7	2.2	2.8	3.4
					50	260	650	1.5	2.1	2.7	3.5	4.3
					60	315	780	1.8	2.4	3.0	3.8	4.6
AN-G	3½ in.	5 in.	2 in.	1½ in.	40	210	720	1.5	2.1	2.7	3.5	4.3
					50	260	900	1.8	2.5	3.2	4.2	5.1
					60	315	1080	2.0	2.9	3.8	5.0	6.2
AN-H	4 in.	5 in.	2 in.	1½ in.	40	210	950	2.2	2.9	3.6	4.5	—
					50	260	1185	2.7	3.4	4.2	5.2	—
					60	315	1425	3.0	3.9	4.8	6.0	—
AN-J	5 in.	5 in.	2½ in.	2 in.	40	210	1500	2.8	3.6	4.4	—	—
					50	260	1875	3.4	4.4	5.4	—	—
					60	315	2250	4.0	5.2	6.4	—	—
AN-I	4 in.	6 in.	2½ in.	2½ in.	40	245	1125	2.4	3.3	4.1	5.3	6.4
					50	305	1400	2.7	3.8	4.9	6.4	7.8
					60	365	1675	3.1	4.4	5.7	7.4	9.2
AN-K	5 in.	6 in.	3 in.	3 in.	40	245	1775	3.2	4.5	5.8	7.5	—
					50	305	2225	3.8	5.5	7.2	9.4	—
					60	365	2675	4.5	6.5	8.5	11.2	—
AN-L	6 in.	6 in.	4 in.	4 in.	40	245	2600	4.2	6.2	8.2	—	—
					50	305	3250	5.2	7.7	10.2	—	—
					60	365	3900	6.2	9.2	12.2	—	—

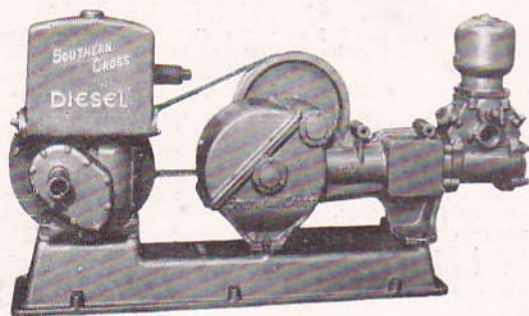
TYPICAL SOUTHERN CROSS POWER PUMPING UNITS



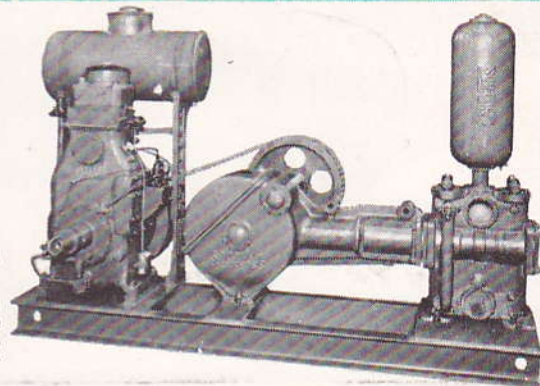
On left is illustrated a Southern Cross 3 1/2" x 5" stroke Geared Self Oiling Power Pump driven by a Southern Cross Electric Motor mounted on angle steel rails, fitted to the drive gear; drive is by four "A" type Brammer V-Belts.



On right is illustrated a Southern Cross "X" Pattern Pump driven by a Southern Cross Electric Motor, driving 4 "A" type Brammer V-Belts, all mounted on a cast-iron base.



The unit illustrated on left is a Southern Cross Mark EU-C 4 H.P. Air Cooled Diesel Engine driving by 4 "A" type Brammer V-Belts a Mark AN-G 3 1/2" Bore x 5" Stroke Geared Self Oiling Power Pump, mounted on a cast-iron base.

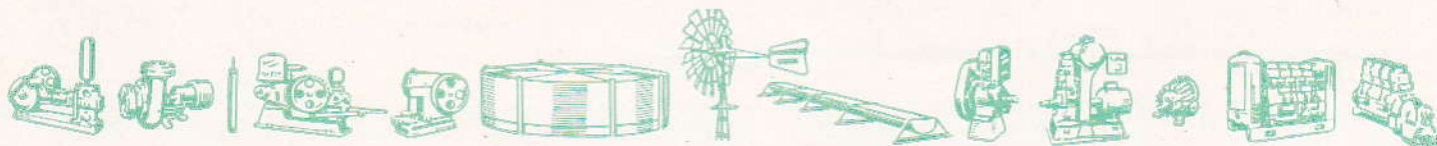


On right is illustrated a Southern Cross 12 1/2 h.p. Mark BD-C Diesel Engine for tank cooling, driving by 6 "B" type Brammer V-Belts, a Mark AN-K 5 in. bore x 6 in. stroke geared self-oiling power Pump, mounted on a channel steel base.

1177/6M
10/57 S.H. & CO.

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DIESEL ENGINES — MARINE ENGINES — GENERATING SETS — ELECTRIC MOTORS — WINDMILLS — PUMPS AND PUMPHEADS
TANKS AND TANKSTANDS — TROUGHING — IRRIGATION EQUIPMENT — MILKING MACHINES