

**No. 1 and No. 2 Shaft Modules**

Pump Size	Factory Symbol	C.I. Impeller Weight (Kg)	Impeller Rotational Inertia (Kg/m <sup>2</sup> )	Minimum Casing Thickness (mm)	C.I.-G.M.-Z.F.-S.S.		Shaft Critical Speed (RPM)	Maximum Operating Speed (RPM)	Sealing Ring			Impeller	
					Hydrostatic Test Pressure (Kpa)	Maximum Working Pressure (Kpa)*			Diameter (Nominal)		Diametral Clearance (Nominal) (mm)	No. of Vanes	Max Sphere Size (mm)
									Front (mm)	Back (mm)			
50 x 32 — 160	SEA	2.7	.008	9	3 800	2 500	14 600	3 600	92	92	0.25	6	5
65 x 50 — 160	SEB	2.6	.008	9	3 800	2 500	14 600	3 600	92	92	0.25	6	7
80 x 65 — 160	SEC	2.8	.010	10	3 800	2 500	14 600	3 600	105	92	0.25	6	11
100 x 80 — 160	SED	4.2	.014	10	3 800	2 500	16 700	3 600	132	132	0.3	6	12
50 x 32 — 200	SFA	3.7	.018	9	3 300	2 200	12 400	3 600	92	105	0.25	6	4
65 x 40 — 200	SFB	4.0	.019	9	3 800	2 500	12 400	3 600	92	105	0.25	6	5
80 x 50 — 200	SFC	4.0	.021	10	3 800	2 500	12 400	3 600	105	105	0.25	6	9
100 x 65 — 200	SFD	6.0	.033	10	2 800	1 850	14 900	3 600	132	132	0.3	6	14
125 x 100 — 200	SFF	6.4	.036	13	3 000	2 000	14 400	3 600	160	160	0.3	6	17
65 x 40 — 250	SGB	6.0	.042	10	3 300	2 200	14 900	3 600	105	115	0.25	5	5
80 x 50 — 250	SGC	6.0	.042	10	2 800	1 900	14 900	3 600	115	115	0.25	6	6
100 x 65 — 250	SGD	7.0	.052	11	2 600	1 700	13 600	3 600	132	132	0.3	6	9
65 x 40 — 315	SHB	10.1	.128	11	2 800	1 900	12 600	3 000	105	115	0.25	5	5
80 x 50 — 315	SHC	9.2	.112	12	3 300	2 200	11 800	3 000	115	115	0.25	5	7

\* NOTE: Standard flange drilling to AS 2129 — 1982 Table 'E', with maximum working pressure 1400 kPa (C.I., G.M./Z.F., or S.S.)

## Material Specifications

### All Pumps

SYMBOL	MATERIAL	SPECIFICATION	COMPONENTS WHERE USED
CI	Cast Iron	AS 1830/T260 Equivalent Standards: BS1452 (1977) Grade 260 ANSI. 625.1 Class 40 ASTM A48 Class 40	Bearing Housing Bearing Cover Volute Casing Backplate Impeller
GM	Gunmetal	AS1565/C83600 Equivalent Standards: BS1400 LG2 SAE 40 ISO 1338 Cu P65 Sn5 Zn5	Volute Casing Backplate Impeller Casing Wear Rings
ZF	Zinc Free Bronze	AS1565/C90250 Equivalent Standards: BS1400 PB3 ISO 1338 Cu Sn 10	Volute Casing Backplate Impeller Impeller Wear Rings
CSS	Cast Stainless Steel	AS2074/H6B Equivalent Standards: BS3100 (1976) Grade 316C16 ASTM A296 Grade CF8M	Volute Casing Backplate Impeller Casing and Discharge Flange Plugs
MS	Mild Steel	AS1204/250	Support Foot
SS	Wrought Stainless Steel	AS1444/416 Equivalent Standards: BS970 Grade 416 S21 SAE 51416	Shaft
		AS1444/316 Equivalent Standards: BS970 Grade 316S16 SAE 30316	Shaft Impeller Washer Impeller Nut Impeller Key
HT	High Tensile Steel	AS1110 GR. 8.8	All Bolts and Setscrews
	Malleable Iron		Casing and Discharge Flange Plugs
	Key Steel		Impeller Key Pulley Key

#### PAINTING

One Coat

Two Coats

Colour

— Wattyl 765 Water Resistant 2 Pack Etch Primer

— Wet on Wet Triton XL Polytone Enamel (Approval No. C.P.C. - P - 87-1)

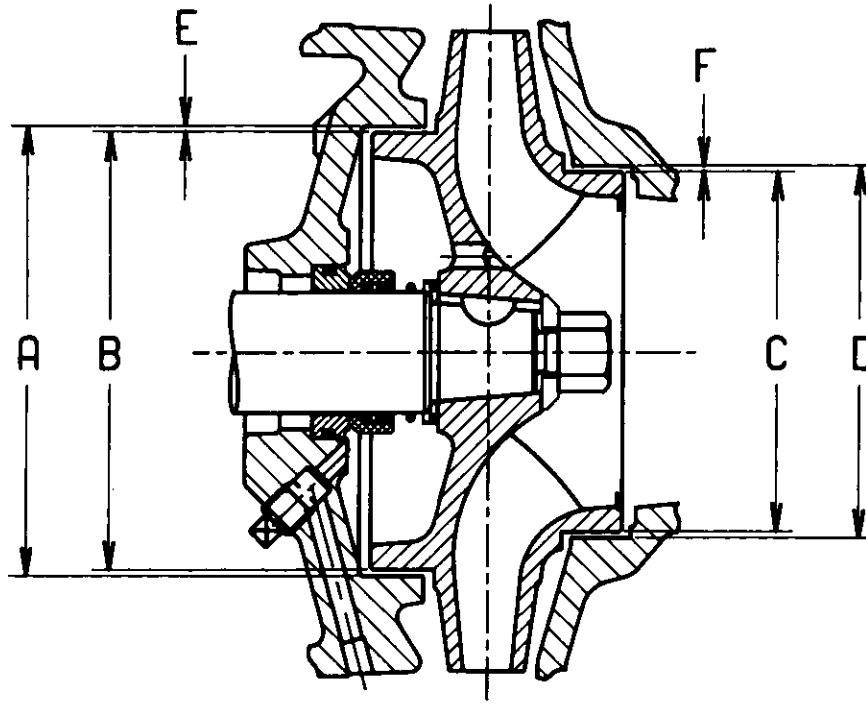
— Marine Green

**No. 3 Shaft Module**

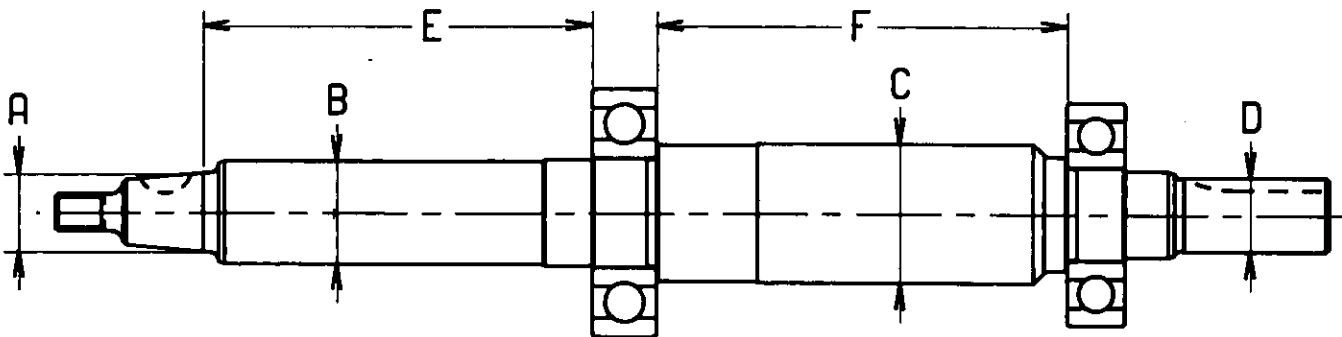
Pump Size	Factory Symbol	C.I. Impeller Weight (Kg)	Impeller Rotational Inertia (Kg/m <sup>2</sup> )	Minimum Casing Thickness (mm)	C.I.-G.M.-Z.F.-S.S.		Shaft Critical Speed (RPM)	Maximum Operating Speed (RPM)	Sealing Ring			Impeller	
					Hydrostatic Test Pressure (Kpa)	Maximum Working Pressure (Kpa)*			Diameter (Nominal)		Diametral Clearance (Nominal) (mm)	No. of Vanes	Max Sphere Size (mm)
									Front (mm)	Back (mm)			
125 x 100 — 250	SGF	9.5	0.077	12	2 400	1 600	14 450	3 000	186	186	0.4	6	23
150 x 125 — 250	SGG	10	0.088	14	2 470	1 650	13 970	3 000	186	186	0.4	6	33
100 x 65 — 315	SHD	12.3	0.139	13	2 700	1 800	12 820	3 000	160	160	0.4	6	9.5
125 x 100 — 315	SHF	13.2	0.157	16	3 070	2 050	12 250	3 000	160	160	0.4	6	14.5
150 x 125 — 315	SHG	13.4	0.164	16	2 470	1 650	12 160	3 000	186	186	0.4	6	26
125 x 80 — 400	SJE	20.5	0.422	15	2 400	1 600	9 990	2 350	186	186	0.4	5	9.5
125 x 100 — 400	SJF	19.9	0.389	16	2 400	1 600	10 140	2 350	186	186	0.4	6	12
150 x 125 - 400	SJG	20.6	0.427	17	2 400	1 600	9 970	2 350	186	186	0.4	6	18

\* Note: Standard flange drilling to AS 2129 — 1982 Table 'E', with maximum working pressure 1400 kPa (C.I., G.M./Z.F., or S.S.)

### Nos. 1 and 2 Shaft Module



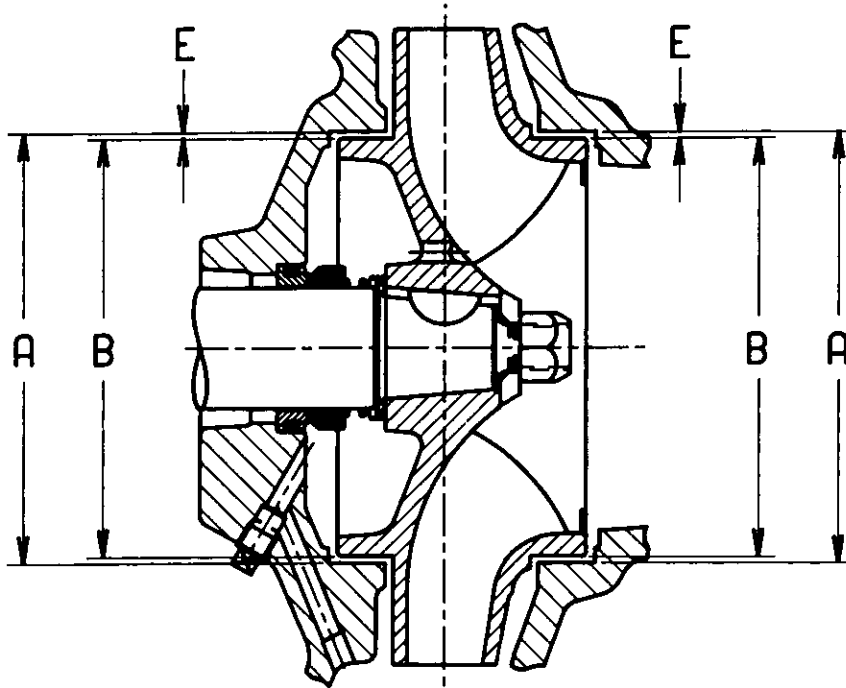
Pump Size	Factory Symbol	Impeller and Casing Sealing Diameters				Radial Clearance	
		A	B	C	D	E	F
50 x 32 — 160	SEA	92.05	91.83	91.83	92.05	.14	.14
		92.00	91.77	91.77	92.00	.085	.085
65 x 50 — 160	SEB	92.05	91.83	91.83	92.05	.14	.14
		92.00	91.77	91.77	92.00	.085	.085
80 x 65 — 160	SEC	92.05	91.83	104.83	105.05	.14	.14
		92.00	91.77	104.77	105.00	.085	.085
100 x 80 — 160	SED	132.05	131.77	131.77	132.05	.18	.18
		132.00	131.69	131.69	132.00	.115	.115
50 x 32 — 200	SFA	105.05	104.83	91.83	92.05	.14	.14
		105.00	104.77	91.77	92.00	.085	.085
65 x 40 — 200	SFB	105.05	104.83	91.83	92.05	.14	.14
		105.00	104.77	91.77	92.00	.085	.085
80 x 50 — 200	SFC	105.05	104.83	104.83	105.05	.14	.14
		105.00	104.77	104.77	105.00	.085	.085
100 x 65 — 200	SFD	132.05	131.77	131.77	132.05	.18	.18
		132.00	131.69	131.69	132.00	.115	.115
125 x 100 — 200	SFF	160.05	159.77	159.77	160.05	.18	.18
		160.00	159.69	159.69	160.00	.115	.115
65 x 40 — 250	SGB	115.05	114.80	104.83	105.05	.16	.14
		115.00	114.73	104.77	105.00	.10	.085
80 x 50 — 250	SGC	115.05	114.80	114.80	115.05	.16	.16
		115.00	114.73	114.73	115.00	.10	.10
100 x 65 — 250	SGD	132.05	131.77	131.77	132.05	.18	.18
		132.00	131.69	131.69	132.00	.115	.115
65 x 40 — 315	SHB	115.05	114.80	104.83	105.05	.16	.14
		115.00	114.73	104.77	105.00	.10	.085
80 x 50 — 315	SHC	115.05	114.80	114.80	115.05	.16	.16
		115.00	114.73	114.73	115.00	.10	.10



Pump Size	Factory Symbol	Bare Pump Weight (kg)	Back Pull-out Weight (kg)	Back Pull-out Minimum Withdrawal Clearance (mm)	Shaft Diameter				Length From Bearing To Impeller 'E' (mm)	Length Between Bearings 'F' (mm)
					At Imp. 'A' (mm)	At Mech Seal 'B' (mm)	Between Bearings 'C' (mm)	At Coupling 'D' (mm)		
50 x 32 — 160	SEA	37.7	23.9	100	25	33.00	45	24.01	127	134
65 x 50 — 160	SEB	38.8	23.8			32.95		23.99		
80 x 65 — 160	SEC	43.4	24.0			43.00		32.02		
100 x 80 — 160	SED	61.5	35.7		42.95	32.00				
50 x 32 — 200	SFA	43.5	28.1	140	25	33.00	24.01	127	134	
65 x 40 — 200	SFB	45.6	28.4			32.95	23.99			
80 x 50 — 200	SFC	47.8	28.4			43.00	32.02			
100 x 65 — 200	SFD	65.4	38.7		42.95	32.00				
125 x 100 — 200	SFF	80.7	39.1	100	35	43.00	32.02	138	200	
65 x 40 — 250	SGB	65.1	42.9							
80 x 50 — 250	SGC	69.9	42.9							
100 x 65 — 250	SGD	77.5	43.5							
65 x 40 — 315	SHB	84.0	55.4	100	35	42.95	54	32.00	138	200
80 x 50 — 315	SHC	88.1	54.5							

**SOUTHERN CROSS**

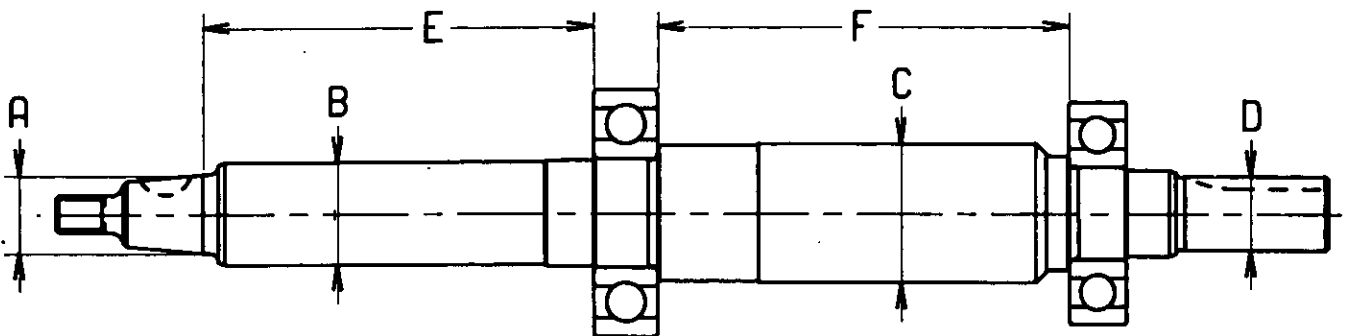
AUSTRALIAN DESIGNED AND MANUFACTURED

*Sovereign***CENTRIFUGAL PUMPS**Impeller  
Clearances**No. 3 Shaft Module**

Pump Size	Factory Symbol	Impeller and Casing Sealing Diameters		Radial Clearance
		A	B	E
125 x 100 — 250	SGF	186.05	185.66	0.23
		186.00	185.59	0.17
150 x 125 — 250	SGG	186.05	185.66	0.23
		186.00	185.59	0.17
100 x 65 — 315	SHD	160.05	159.66	0.23
		160.00	159.59	0.17
125 x 100 — 315	SHF	160.05	159.66	0.23
		160.00	159.59	0.17
150 x 125 — 315	SHG	186.05	185.66	0.23
		186.00	185.59	0.17
125 x 80 — 400	SJE	186.05	185.66	0.23
		186.00	185.59	0.17
125 x 100 — 400	SJF	186.05	185.66	0.23
		186.00	185.59	0.17
150 x 125 — 400	SJG	186.05	185.66	0.23
		186.00	185.59	0.17

Dimensions in mm.

## No. 3 Shaft Module



Pump Size	Factory Symbol	Bare Pump Weight (kg)	Back Pull-out Weight (kg)	Back Pull-out Minimum Withdrawal Clearance (mm)	Shaft Diameter				Length From Bearing To Impeller 'E' (mm)	Length Between Bearings 'F' (mm)
					At Imp. 'A' (mm)	At Mech Seal 'B' (mm)	Between Bearings 'C' (mm)	At Coupling 'D' (mm)		
125 x 100 — 250	SGF	114	63	140	45	53.00	66	42.02	156	164
						52.97		42.00		
150 x 125 — 250	SGG	127	63	140	45	53.00	66	42.02	156	164
						52.97		42.00		
100 x 65 — 35	SHD	114	68	140	45	53.00	66	42.02	156	164
						52.97		42.00		
125 x 100 — 315	SHF	130	69	140	45	53.00	66	42.02	156	164
						52.97		42.00		
150 x 125 — 315	SHG	148	69	140	45	53.00	66	42.02	156	164
						52.97		42.00		
125 x 80 — 400	SJE	155	90	140	45	53.00	66	42.02	156	164
						52.97		42.00		
125 x 100 — 400	SJF	167	90	140	45	53.00	66	42.02	156	164
						52.97		42.00		
150 x 125 — 400	SJG	185	91	140	45	53.00	66	42.02	156	164
						52.97		42.00		