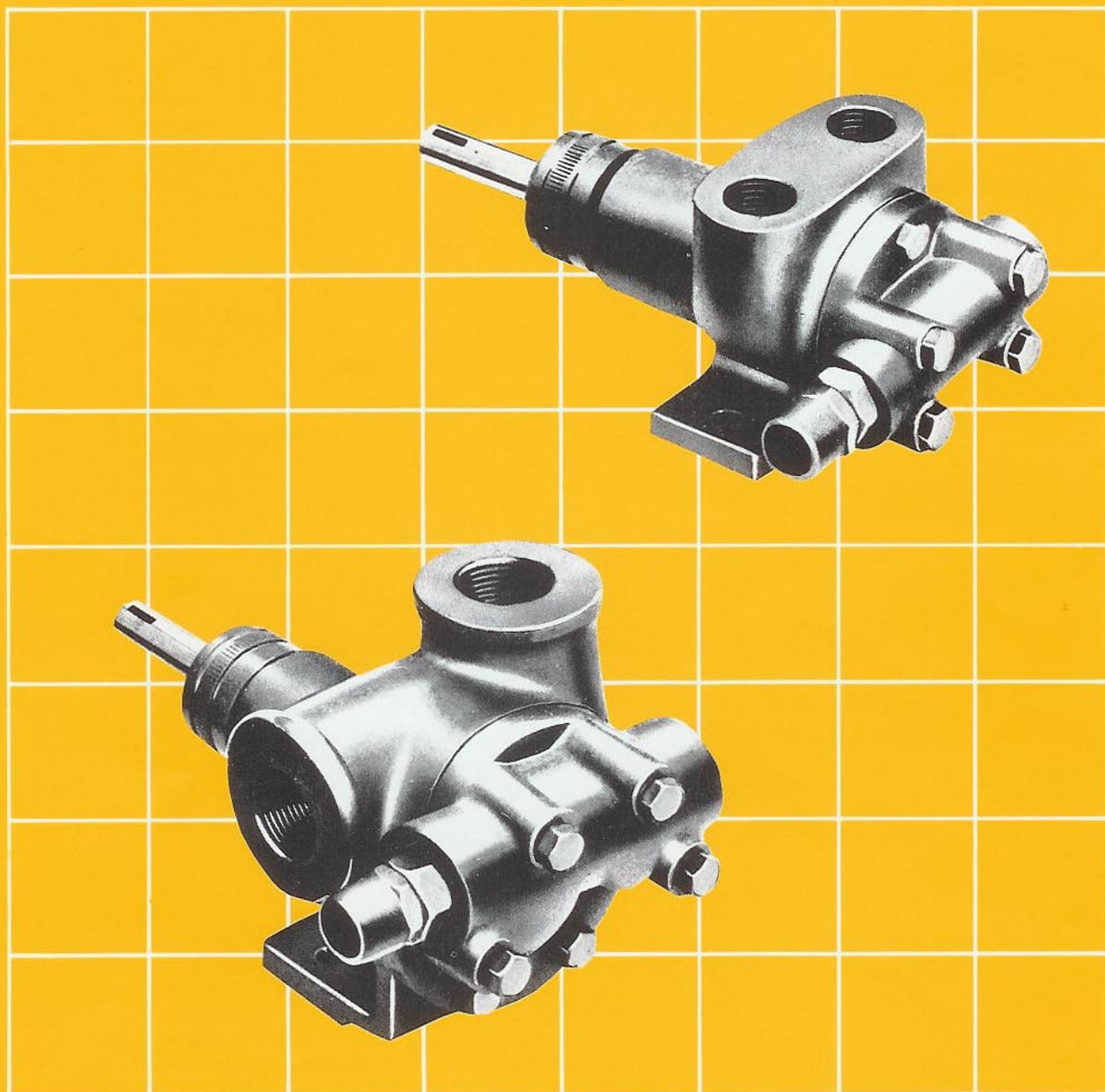


# EBSRAY PUMPS

Rotary Internal Gear Pump  
Z Series

Models — ZB120 M  
ZB120  
Z580



Positive Displacement — Self Priming  
Rotary Internal Gear Pumps  
for General Purpose Industrial Applications

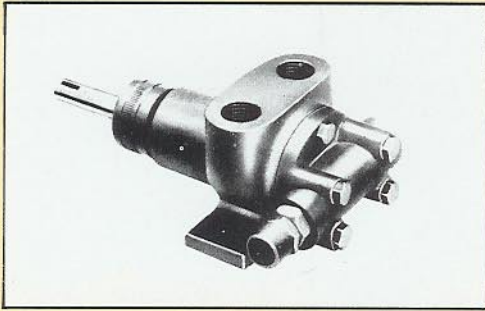


Quality  
Endorsed  
Company

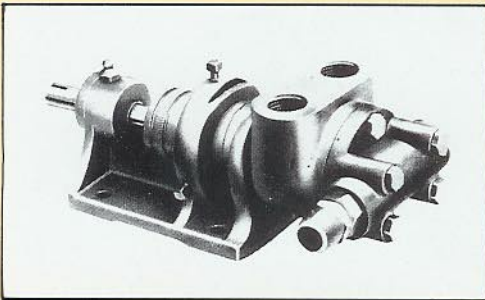
ISO 9001  
Lic 3332  
Standards Australia

EBSRAY PUMPS PTY. LIMITED  
628 Pittwater Road, Brookvale,  
N.S.W. 2100 Australia.

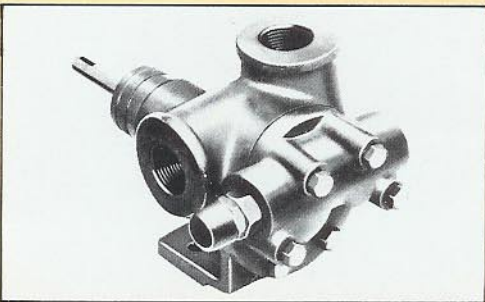
Telephone: (02) 9905 0234 Fax: (02) 9938 3825



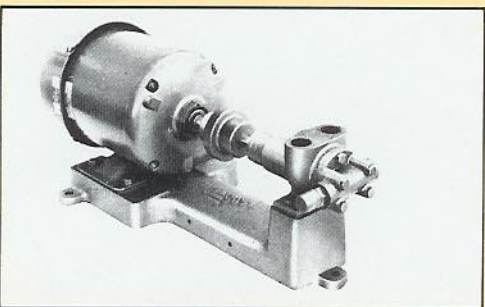
FOOT MOUNTED ZB120



TRUNNION MOUNTED ZX120



FOOT MOUNTED Z580



TYPICAL MOUNTED UNIT

Designed and precision built for efficient transfer of a variety of liquids having lubricating or non-lubricating characteristics.

**PERFORMANCE DATA**

Nominal Rating at 1440 R.P.M. — ZB120 Min	6.4 Lit/min
ZB120	11.4 Lit/min
Z580	23.6 Lit/min

Max Speed	1800 R.P.M.
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Max Differential Pressure	$\begin{matrix} < 20 \text{ cSt} \\ > 20 \text{ cSt} \end{matrix}$	1400 kPa. 2000 kPa.
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Max Recommended Temp — Mech Seal.	100°C
— Hyd Packing	200°C

Viscosity Range	1-10,000 cSt.
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**FEATURES**

Quiet Operation  
 High Overall Efficiency  
 Low Maintenance — Long Life  
 Easy Pull Out Construction  
 Replaceable Internal Wearing Parts  
 Direct Coupling to Synchronous Speed Motors  
 Rotation to suit Fluid Flow C.W. or C.C.W.  
 Variable Mounting Orientation  
 Lightweight — Robust — Compact  
 Integral Adjustable Bypass Valve — Optional  
 Mech Seal or Hydraulic Packing

**TYPICAL SERVICES**

Petroleum and Fuel Oil Industries  
 Liquified Gas Industry  
 Chemical and Pharmaceutical Industries  
 Power Stations                      Public Utilities  
 Paint Industry                      Edible Oil Industry

**COMMON LIQUID APPLICATIONS**

Fuel Oils	Kerosene	Transformer Oils
Lube Oils	L.P. Gas	Vegetable Oils
Distillate	Solvents	Chemicals
Petrol	Paints	

**ASSURED PERFORMANCE**

All EBSRAY Z SERIES Pumps are run tested thus guaranteeing performance in accordance with the pump specifications.

The design features of the pump enable reliable operation over a long working life, and trouble free service expectancy is achieved by utilizing low maintenance components within the pump.

EBSRAY spare parts are closely toleranced ensuring quick replacement and interchangeability. All standard spare parts are readily available thus ensuring continuity of pump maintenance services.

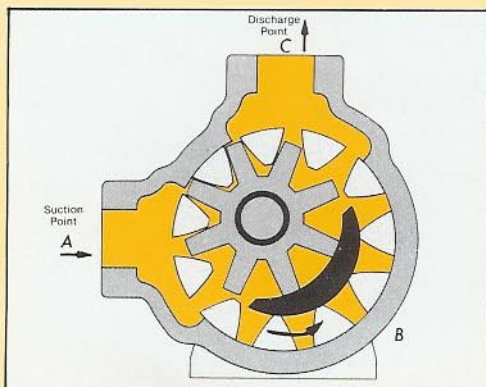
**SPECIAL CONSTRUCTIONS**

Contact EBSRAY or your local representative for advice on alternate arrangements to meet applications not outlined in this catalogue, e.g. O.E.M. special designs.

EBSRAY pumps are all designed and manufactured in AUSTRALIA.

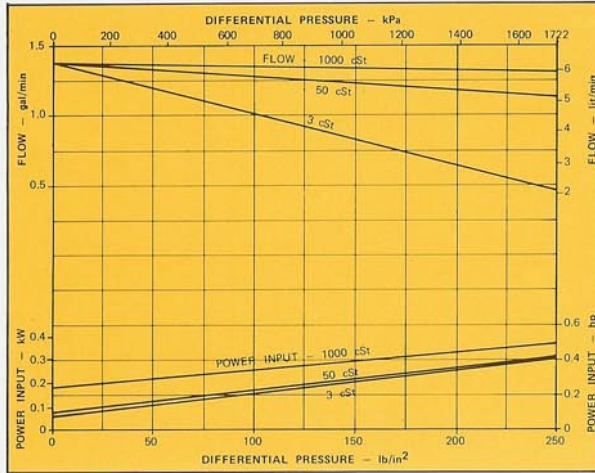
**PUMPING PRINCIPLE**

- Liquid is drawn into the pump through the suction port.
- Liquid is transferred from suction to discharge side of pump.
- As teeth mesh liquid is forced out through discharge port.

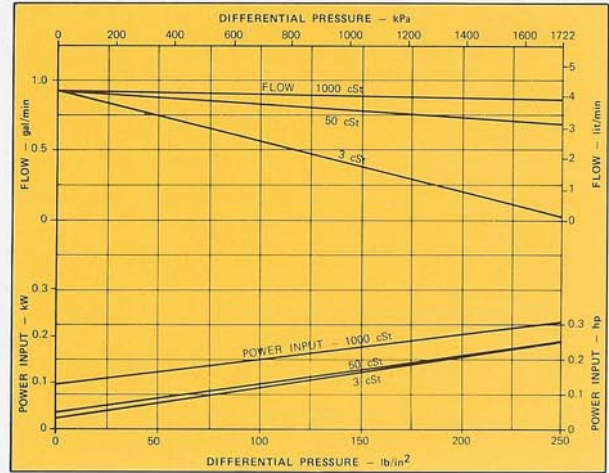


PUMPING PRINCIPLE

BASIC PUMP MODEL 120 MINOR

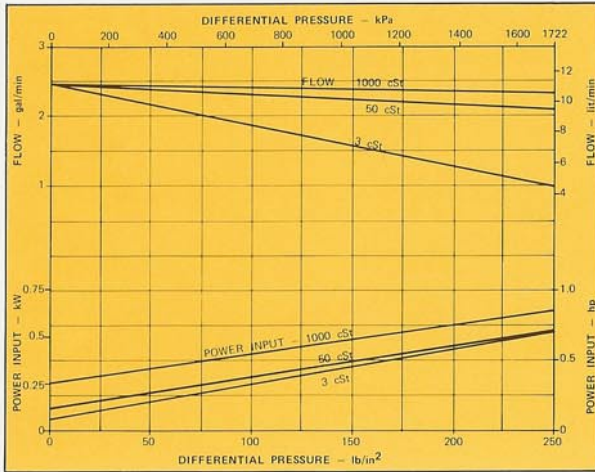


1440 Rev/Min

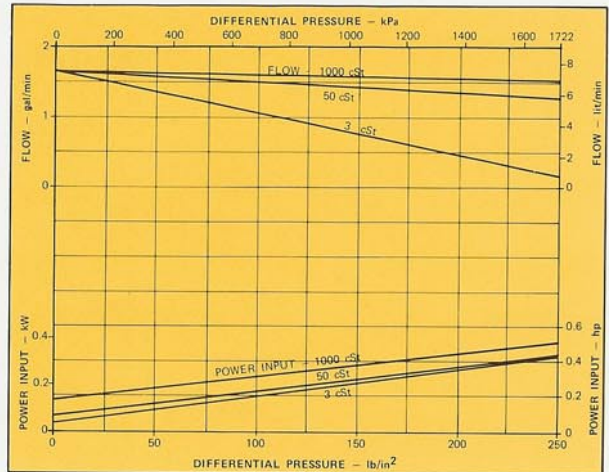


960 Rev/Min

BASIC PUMP MODEL 120

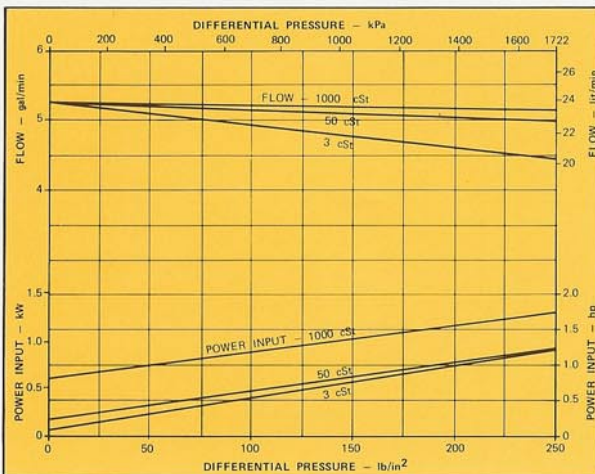


1440 Rev/Min

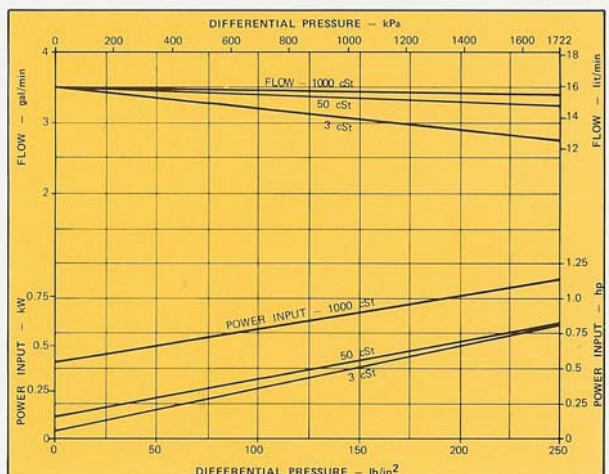


960 Rev/Min

BASIC PUMP MODEL 580



1440 Rev/Min



960 Rev/Min

- Notes:**
1. The above performances are based upon precisely controlled testing conditions of speed, viscosity and differential pressure. Variation from any of these parameters will alter pump performance.
  2. Graphs indicate non-bypass valve fitted pumps. When standard bypass valve is fitted, allowances should be made for some flow reduction at low viscosity/high pressure conditions.
  3. For parameters outside those printed above contact Ebsray or representative for details.

PUMP SPECIFICATIONS

Z SERIES

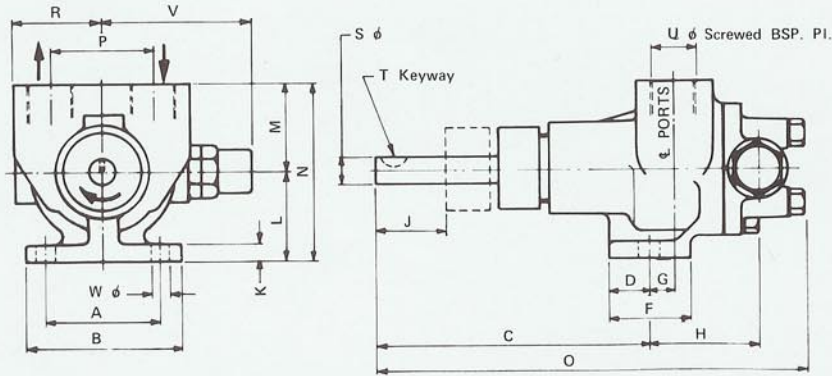
INTERNAL GEAR – INDUSTRIAL PUMPS  
 IMPORTANT – READ ALL FOOTNOTES



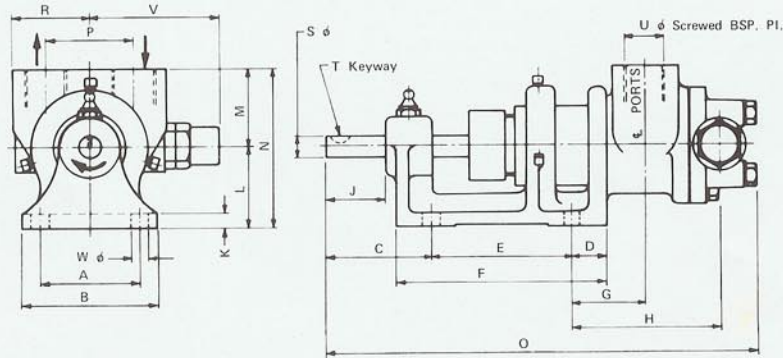
INSTALLATION DIMENSIONS

THIRD ANGLE PROJECTION

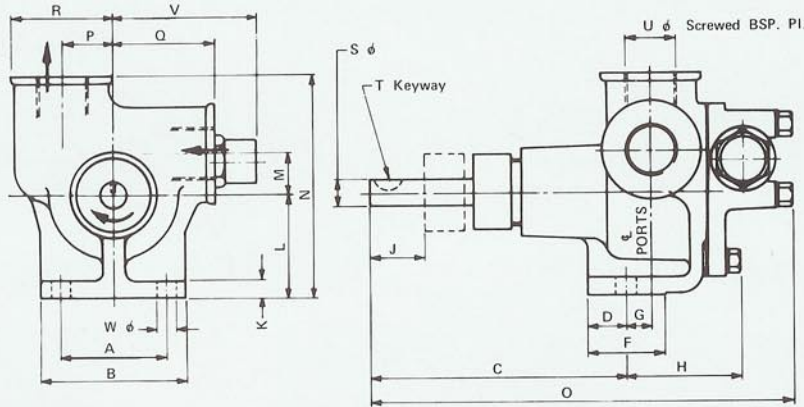
BASIC MODELS  
 ZB120 MINOR, ZB120



BASIC MODELS  
 ZX120 MINOR, ZX120



BASIC MODEL  
 Z580



BASIC PUMP MODEL	MAJOR PUMP DIMENSIONS – Inches/Millimetres																				PUMP WEIGHT lb/ka		
	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U		V	W
ZB120	2.12	2.87	5.06	0.75	-	1.5	0.45	1.94	1.12	0.31	1.62	1.62	3.25	7.88	1.87	-	1.62	0.4997	0.5x0.09	0.5	2.76	0.34	5.8
	53.8	72.9	128	19.1	-	38.1	11.4	49.3	28.4	7.9	41.2	41.2	82.6	200	47.5	-	41.2	12.692	12.7x 2.3	12.7	70.1	8.6	2.6
ZX120	2.12	2.87	2.25	0.75	3.0	4.5	1.56	3.06	1.25	0.31	1.75	1.62	3.37	9.12	1.87	-	1.62	0.4997	0.5x0.09	0.5	2.76	0.34	7.9
	53.8	72.9	57.2	19.1	76.2	114	39.6	77.7	31.8	7.9	44.4	41.2	85.6	232	47.5	-	41.2	12.692	12.7x 2.3	12.7	70.1	8.6	3.6
Z580	2.12	2.87	5.06	0.75	-	1.5	0.45	2.19	1.12	0.34	2.0	0.81	4.37	8.28	1.0	2.0	2.0	0.4997	0.5x0.09	0.75	2.89	0.34	8.5
	53.8	72.9	128	19.1	-	38.1	11.4	55.6	28.4	8.6	50.8	20.6	111	210	25.4	50.8	50.8	12.692	12.7x 2.3	19.1	73.4	8.6	3.9

NOTES:

- Basic Model Numbers indicate Mechanical Seal pumps without Bypass Valve fitted.  
 Add suffix "P" for Hydraulic Packing fitted pumps e.g. Z580P.  
 Add suffix "V" for Bypass Valve fitted pumps e.g. Z580V.
- Pump rotation as viewed from drive end only. Standard rotation clockwise (as drawn). Anti-clockwise also available excepting Z580V. Hand of Bypass Valve (if fitted) determines the rotation of the pump.
- Dimension H covers the extreme end of pumps when a plain cover is fitted (i.e. without an integral bypass valve).
- The use of brass type pipe fittings is recommended.

SHAFT LIMITS	INCHES/MILLIMETRES
DIAMETER	LIMITS
UP TO 1.1811	+ .0000 - .0005
UP TO 30.000	+ .000 - .013

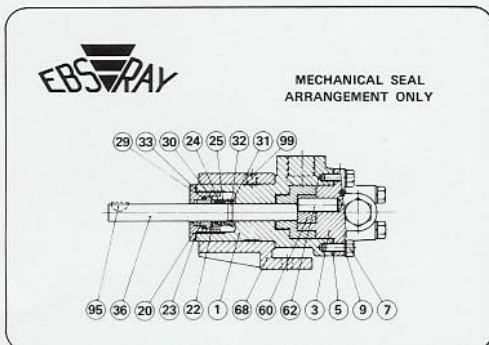
CERTIFIED PERFORMANCES AND DIMENSIONS SUPPLIED UPON REQUEST.

#### SPARE PARTS LIST (1)

No.	DESCRIPTION	No. Off
1	BODY	1
3	INSPECTION COVER (Plain or Bypass)	1
5	" " Gasket	1 set
7	" " Set Screw	1 set
9	" " Spring Washer	6
17	GLAND	1
20	GLAND NUT	1
21	GLAND PACKING	1 set
22	MECHANICAL SEAL Rotating Face	1
23	" " Stationary Face	1
24	" " Drive Washer	1
25	" " Spring	1
28	" " Locating Pin	1
29	" " O-ring Stationary	1
30	" " O-ring Rotating	1
31	" " Circlip	1
32	" " Circlip Retainer	1
33	" " Gasket	1
34	" " Sleeve	1
36	OUTER ROTOR ON SHAFT ASSEMBLY	1
48	BYPASS VALVE	1
53	" " Spring	1
54	" " Lock Nut	1
55	" " Adjusting Screw	1
56	" " Adjusting Screw Cap	1
57	" " Adjusting Screw Gasket	2
60	INNER ROTOR	1
62	" " Pin	1
68	BRACKET	1
95	WOODRUFF KEY	1
96	GREASE NIPPLE	1
97	TRUNNION	1
98	" " Bearing	2
99	" " Lock Screw	3

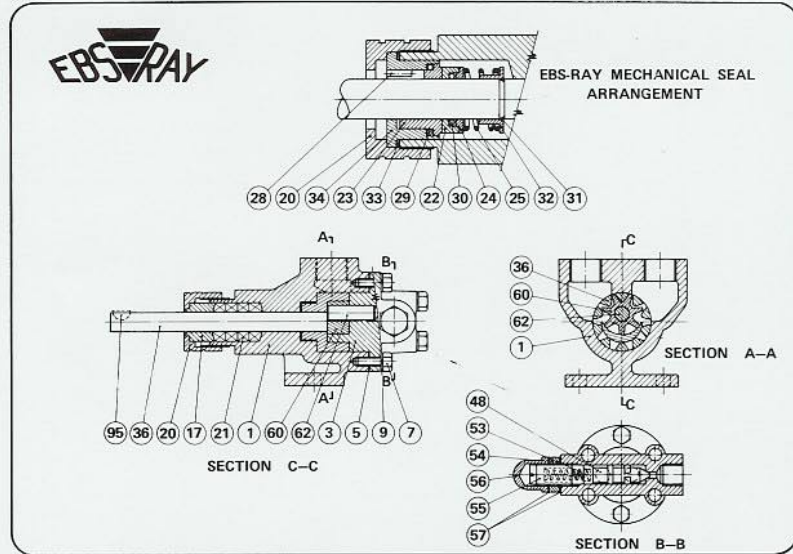
#### NOTES:

- When ordering spare parts, PUMP SERIAL NUMBER MUST be quoted at all times thus ensuring correct material replacement to original specification.
- Pump Serial Number is located on the pump body, adjacent to the ports.
- Basic Model Numbers indicate Mechanical Seal pumps without Bypass Valve fitted. Add suffix "P" for Hydraulic Packing fitted pumps, e.g. Z580P. Add suffix "V" for Bypass Valve fitted pumps, e.g. Z580V. For Hydraulic Packing plus Bypass Valve fitted pumps, e.g. Z580PV.

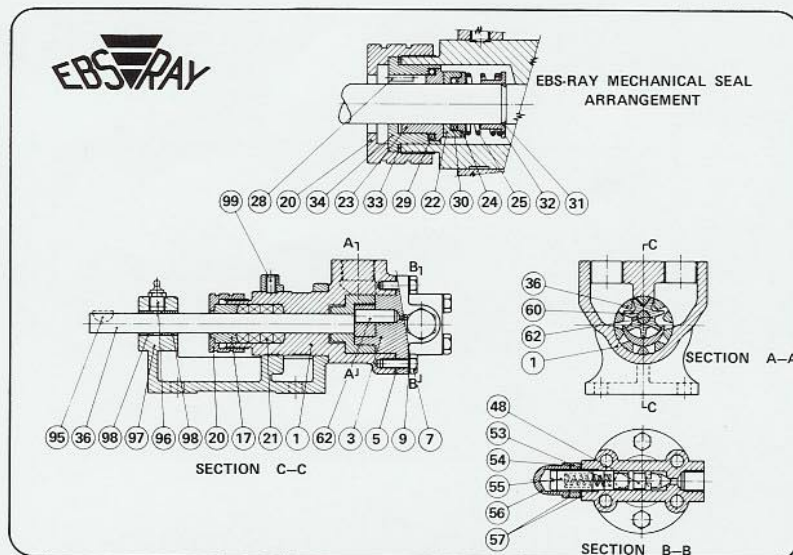


#### BASIC MODELS Z120 MINOR, Z120

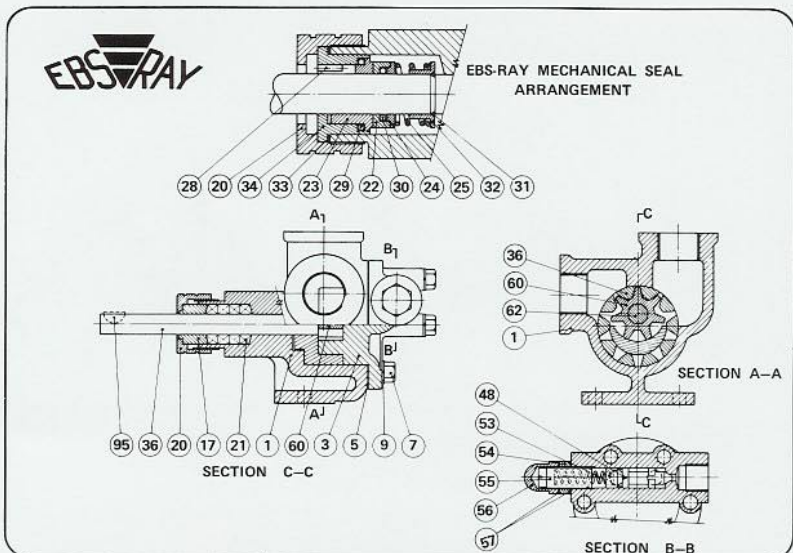
This model is directly interchangeable dimensionally with Model ZB120 Minor, ZB120.



#### BASIC MODELS ZB120 MINOR, ZB120



#### BASIC MODELS ZX120 MINOR, ZX120



#### BASIC MODEL Z580

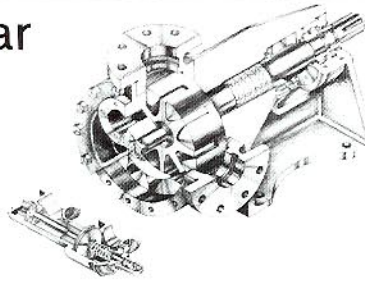
# EBSRAY's Range of Liquids Transfer Pumps

**EBSRAY**  
AUSTRALIA

## Internal Gear Pumps

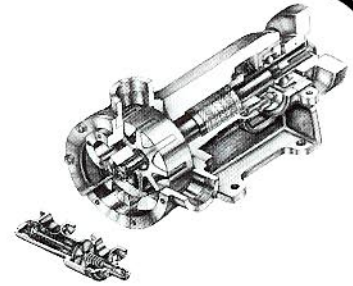
### HD Series

Q to 39 Lit/sec  
P to 2,000 kPa  
 $\nu$  to 100,000 cSt



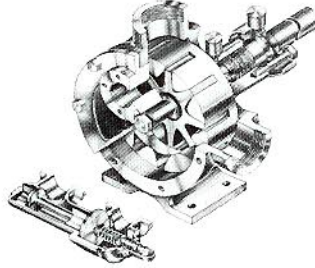
### MD Series

Q to 19 Lit/sec  
P to 1,300 kPa  
 $\nu$  to 100,000 cSt



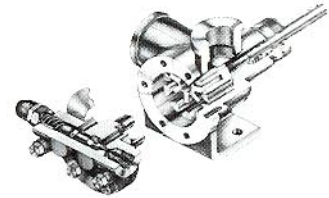
### LD Series

Q to 22 Lit/sec  
P to 700 kPa  
 $\nu$  to 100,000 cSt



### Z Series

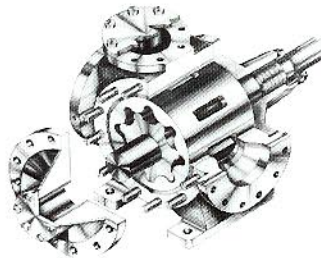
Q to 0.4 Lit/sec  
P to 2,000 kPa  
 $\nu$  to 10,000 cSt



## Lobe Pumps

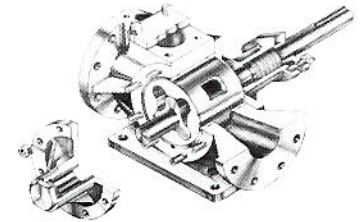
### L Series

Q to 83 Lit/sec  
P to 2,000 kPa  
 $\nu$  to 1,000,000 cSt



### T Series

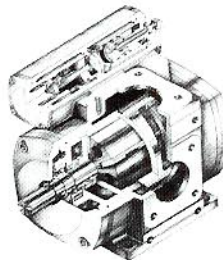
Q to 30 Lit/sec  
P to 2,000 kPa  
 $\nu$  to 1,000,000 cSt



## Vane Pumps

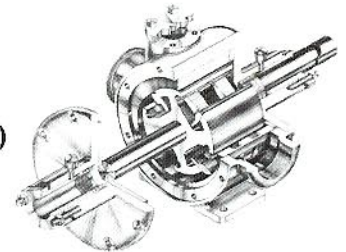
### V Series (Sliding)

Q to 100 Lit/sec  
P to 850 kPa  
 $\nu$  to 10,000 cSt



### B Series (Swinging)

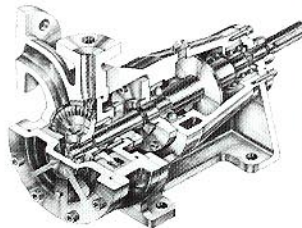
Q to 13 Lit/sec  
P to 700 kPa  
 $\nu$  to 2,000 cSt



## Regenerative Pumps

### TT5 Series

Q to 2 Lit/sec  
H to 180m  
 $\nu$  to 50 cSt

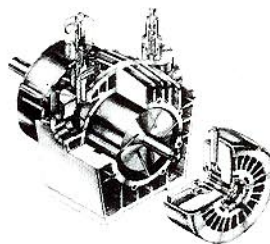


Distributed by

## Compressor Vacuum Pumps

### CV Series

Capacity to 47 Lit/sec  
Pressure to 105 kPa  
Vacuum to 7 kPa (Abs)



**EBSRAY PUMPS PTY. LTD.**  
628 Pittwater Road,  
Brookvale, N.S.W. 2100, Australia.  
Telephone: (02) 9905 0234.  
Fax: (02) 9938 3825

Illustrations are typical only.  
All specifications and illustrations are  
subject to revision without notice.

EXPORT STANDARD

JULY 1996