

STANDS FOR **QUALITY**

**M CPP SERIES**

**CENTRIFUGAL  
PROCESS PUMP**



**MACKWELL**®

PUMPS & CONTROLS



[www.mackwellpump.com](http://www.mackwellpump.com)

## COMPANY PROFILE

MACKWELL PUMPS AND CONTRLS COMPNY is in the field of Pump Manufacturing for almost a decade. We manufacture Centrifugal Pumps for Water, Chemical, Pulp Stock, Slurry, Petrochemicals etc., The pumps are marketed in the brand name of "MACKWELL PUMPS"

Company is having a complete infrastructure duly supported by qualified Technical Experts for Design, Material Handling, Process, Manufacturing, Quality Assurance, Testing, Finishing, Pre despatch activities & for the Service after Sales.

All the Company Members Minds & Hands are in same vision of 100 % customer satisfaction in MACKWELL product & service. Along satisfied customer list yields us a new Customer regularly.

## FOCUS ON UALITY QUALITY POLICY

### QUALITY POLICY

MACKWELL strives to Manufacture the Pumps & Parts to the entire quality satisfaction in all respect through the members involved in the manufacturing process within the shop floor to ensure 100 % customer satisfaction,

### SERVICE POLICY

It is a desire of the company to have a close interaction with the customer during pre-sales& Service after sales to have a best knowledge sharing about process conditions, best pump selection, improved pumping, Operation, efficiency improvements & smooth maintenance

## SPECIALITIES OF MACKWELL PUMPS

- New aged energy efficient pumps for the efficient & productive operation.
- Complete range of centrifugal pumps to cover all applications in the industry.
- Heavy duty triple bearing design for trouble free operation.
- Impeller triple locking system ensures no damage for impeller due to back pressure.
- High mechanical reliability
- Improved metallurgy.
- Environment friendly.
- Maintenance free & noise free.
- Aesthetic appearance.
- Low maintenance with best inter changeability.
- Economic pricing with shortest delivery period.
- Energy audit undertaken for pumps.
- Prompt service back up.
- Continuous improvement without affecting fixing dimensions for an efficient operation.



## APPLICATION

The Mackwell Centrifugal pump is suitable for handling water, condensate, oil, some aggressive chemical products and other liquids mainly used in the following applications:

Water supply		Auxiliary circuits in refineries
Irrigation		Auxiliary circuits in industry
Air conditioning		(Paper, Food, Synthetic Fiber, Other)
Fire fighting		Heating
Drainage		Chemical and petrochemical
Sugar and alcohol industry		

## OPERATING DATA

	50 Hz	60 Hz
Pump size	32 mm to 300 mm	
Flow up to	540 m <sup>3</sup> /hr	1500 m <sup>3</sup> /hr
Head up to	140 m	
Max. pressure	10-16 bars	
Temperature up to	200° c	
Speed up to	1400 rpm	2900 rpm 3500 rpm
Standard material	Cl, Bronze, S.S.	
Shaft	Stainless Steel	
Shaft Sleeve	Stainless Steel	

## CONSTRUCTION

### FUTURE

Horizontal single stage, end suction with vertical discharge. The "back pull out" design allows for maintenance of the pump without disturbing the work connected to the casing, or the pump alignment.

### CASING

Self-venting horizontal volute casing with horizontal end suction and vertical discharge. The casing has supporting feet and is fitted with a wear ring. The suction nozzle includes a vane to reduce pre-rotation.

### SHAFT

The shaft is of the dry type, with protection sleeve to prevent contact with the pumped liquid (for packed gland only). For standard mechanical seal models the shaft is in contact with the pumped liquid.

## ACCESSORIES

### DRIVE

The pump is only recommended for direct drive via a flexible spacer coupling. Spacer coupling enables utilization of the back pull out feature. Where belt drives are necessary a separate jack (intermediate) shaft with bearing to carry the belt loads may be

## DESIGN

Horizontal, single stage, end suction centrifugal pump dimensionally built to ISO 2858 and technical specification IS-ISO 5199.

The back pull out design allows for easy maintenance and repair as the rotating element may be removed without disturbing the pipe work. Pump has wear rings as standard and lifting eye on bearing bracket.

The pump is built to the dimensional and technical requirements of ISO 2858 and ISO 5199. Flanges are in accordance with ANSI 16.5, 150#SORF.



### BEARING

Oil lubrication - Standard Max. Pump temperature 150°C The bearing arrangement consists of two deep groove ball bearings constant level oiler is provided to ensure optimum oil level is maintained. Grease lubrication - optional Max. Pump temperature 150°C The use of grease as a bearing lubricant is available as an option. Bearings are shielded and grease for life.

### FLANGES

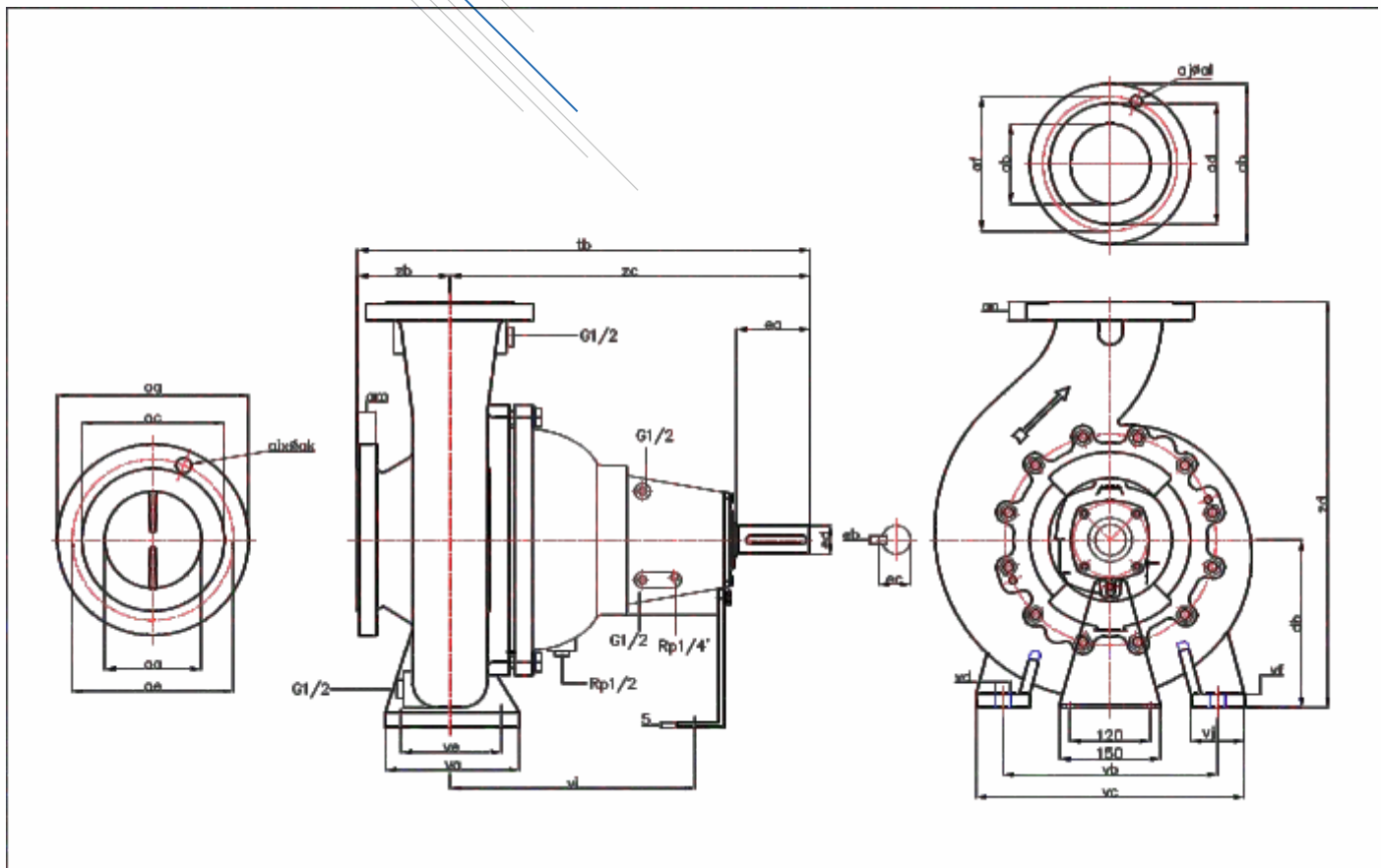
Drilling as per ND16/DIN 2533 (CIRF) DIN 2543 (Steel FF), ANSI 16.5, 150#SORF. Optional: - Available on request.

### SHAFT SEAL

The shaft sealing is carried out by means of gland packing or by mechanical seal. The mechanical drive eliminates overstressing of the elastomer bellows and the single coil spring placed in the field to minimize downtime. Seal operating temperature 30°C to +350°C

### BASE PLATE

Base plate for electric drives are available in a variety of styles. Standard: fixed and grouted directly to the foundation. Anti-vibration: rigid base plate on rubber mounts.



**DIMENSIONS SHEET (MCPP)**

MCPP	aa	ab	db	ea	eb	ec	ed	tb	va	vb	vc	vd	ve	vf	vi	vj	zb	zc	zd	kg
32-125	50	32	112	45	8	27	24	440	100	140	190	14	70	10	268	50	80	360	252	32
32-160	50	32	132	45	8	27	24	440	100	190	240	14	70	12	268	50	80	360	292	34
32-200	50	32	160	45	8	27	24	440	100	190	240	14	70	12	268	50	80	360	340	35
32-250	50	32	180	45	8	27	24	460	125	250	320	14	95	14	268	65	100	360	405	45

40-125	65	40	112	45	8	27	24	440	100	160	210	14	70	10	268	50	80	360	252	32
40-160	65	40	132	45	8	27	24	440	100	190	240	14	70	12	268	50	80	360	292	38
40-200	65	40	160	45	8	27	24	460	100	212	265	14	70	12	268	50	100	360	340	46
40-250	65	40	180	45	8	27	24	460	125	250	320	14	95	14	268	65	100	360	405	55
40-315	65	40	200	75	10	35	32	595	125	280	345	14	95	14	346	65	125	470	450	70

50-125	65	50	132	45	8	27	24	460	100	190	240	14	70	10	268	50	100	360	292	33
50-160	65	50	160	45	8	27	24	460	100	212	265	14	70	12	268	50	100	360	340	40
50-200	65	50	160	45	8	27	24	460	100	212	265	14	70	12	268	50	100	360	360	55
50-250	65	50	180	45	8	27	24	460	125	250	320	14	95	14	268	65	100	360	405	65
50-315	80	50	225	75	10	35	32	595	125	280	345	14	95	14	346	65	125	470	505	80

65-125	80	65	160	45	8	27	24	460	125	212	280	14	95	10	268	65	100	360	340	44
65-160	80	65	160	45	8	27	24	460	125	212	280	14	95	12	268	65	100	360	360	50
65-200	80	65	180	45	8	27	24	460	125	250	320	14	95	14	268	65	100	360	405	65
65-250	80	65	200	75	10	35	32	570	160	280	360	18	120	14	346	80	100	470	450	85
65-315	80	65	225	75	10	35	32	595	160	315	400	18	120	16	346	80	125	470	505	95

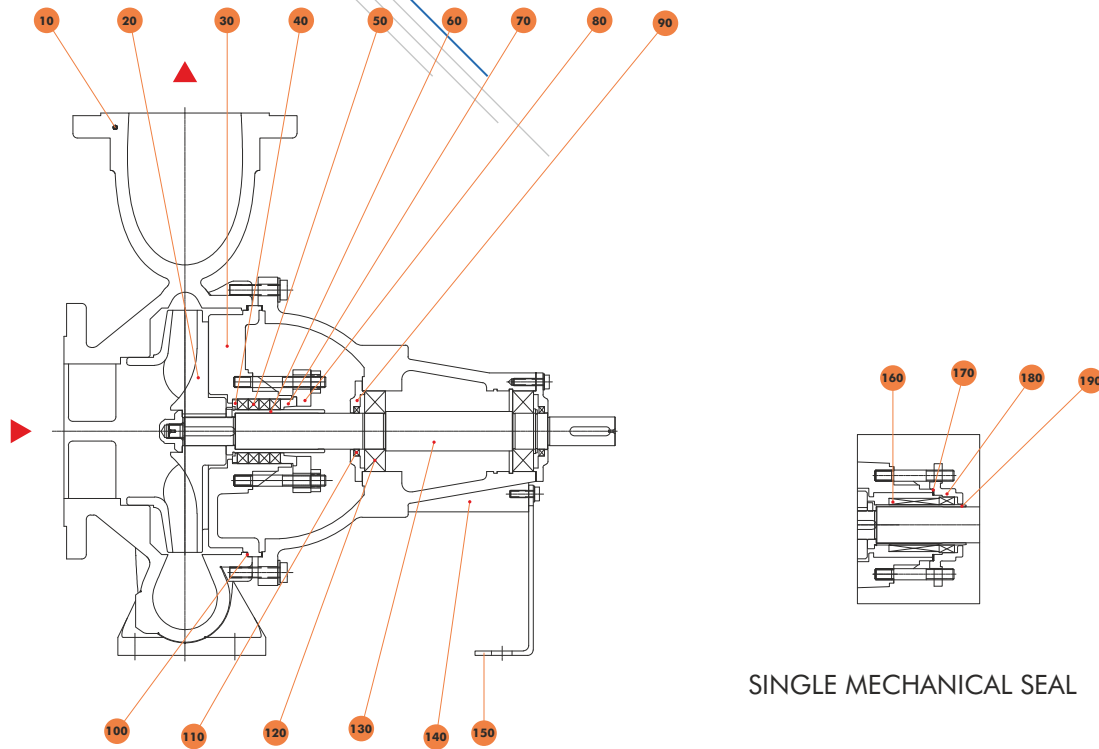
80-160	100	80	180	45	8	27	24	485	125	250	320	14	95	14	268	65	125	360	405	50
80-200	100	80	180	75	10	35	32	595	125	280	345	14	95	14	346	65	125	470	430	75
80-250	100	80	200	75	10	35	32	595	160	315	400	18	120	15	346	80	125	470	480	88
80-315	100	80	250	75	10	35	32	595	160	315	400	18	120	16	346	80	125	470	565	115
80-400	125	80	280	110	12	45	32	655	160	355	435	18	120	18	368	80	125	530	635	150

100-125	100	100	180	45	8	27	24	485	125	250	320	14	95	14	268	65	125	360	430	70
100-160	125	100	200	75	10	35	32	595	160	280	360	18	120	15	346	80	125	470	515	85
100-200	125	100	200	75	10	35	32	595	160	280	360	18	120	15	346	80	125	470	480	90
100-250	125	100	225	75	10	35	32	610	160	315	400	18	120	16	346	80	140	470	505	110
100-315	125	100	250	75	10	35	32	610	160	315	400	18	120	18	346	80	140	470	565	122
100-400	125	100	280	110	12	45	42	670	200	400	500	23	150	20	268	100	140	530	635	185

125-125	125	125	225	45	8	27	24	500	125	250	320	14	95	14	268	65	140	360	525	65
125-250	150	125	250	75	10	35	32	610	160	315	400	18	120	18	346	80	140	470	605	130
125-315	150	125	280	110	12	45	42	670	200	400	500	23	150	20	368	100	140	530	635	185
125-400	150	125	315	110	12	45	42	670	200	400	500	23	150	20	368	100	140	530	715	200

150-125	150	150	280	45	8	27	24	520	160	315	400	18	120	18	268	80	160	360	680	104
150-160	150	150	250	75	10	35	32	630	160	315	400	18	120	18	346	80	160	470	565	108
150-200	150	150	250	75	10	35	32	630	160	315	400	18	120	18	346	80	160	470	565	130
150-250	200	150	280	110	12	45	42	690	200	400	500	23	150	20	368	100	160	530	680	175
150-315	200	150	280	110	12	45	42	690	200	450	550	23	150	22	368	100	160	530	680	185
150-400	200	150	315	110	12	45	42	690	200	450	550	23	150	22	368	100	160	530	765	220

200-160	200	200	280	75	10	35	32	670	200	400	500	23	150	20	346	100	200	470	680	160
200-200	200	200	280	75	10	35	32	670	200	400	500	23	150	20	346	100	200	470	680	170
250-200	250	250	315	110	12	45	42	730	200	450	550	23	150	22	368	100	200	530	765	240
300-200	300	300	450	110	12	45	42	780	200	500	600	23	150	22	368	100	250	530	1050	365



SINGLE MECHANICAL SEAL

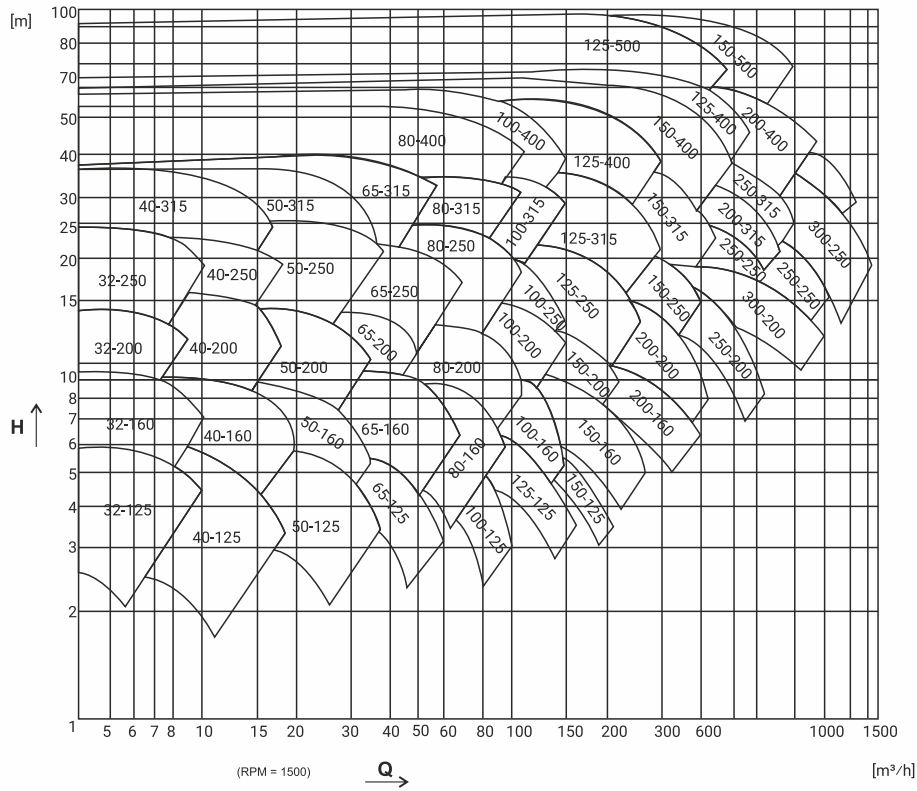
**PART LIST**

Pos.No.	Qty.	Description	Materials					
			CI	CS	CF8M	A 20	HC	HB
10	1	Volute Casing	CI	CS	CF8M	A 20	HC	HB
20	1	Impeller	CI	CS	CF8M	A 20	HC	HB
30	1	Stufing box	CI	CS	CF8M	A 20	HC	HB
40	1	Stufing box ring	BRASS / SS					
50	1	Gland Packing	Asbestos					
60	1	Shaft sleeve	SS410	SS304	SS316	A 20	HC	HB
70	1	Gland Bush	CS	CFB	CF8M	A 20	HC	HB
80	1	Gland pusher	CI					
90	2	Bearing cover	C.I.					
100	2	Gasket	PTFE					
110	2	Oil seal	Nitril Rubber					
120	1	Ball bearing	Steel					
130	1	Pump Shaft	SS410	SS316	SS316	A 20	HC	HB
140	1	Bearing housing	C.I.					
150	1	Support foot	M.S.					
160	1	Mechanical seal	As Stated					
170	1	Gasket	PTFE					
180	1	Seal Plate	Steel	SS316	SS316	A 20	HC	HB
190	1	Seal Sleeve	Steel	SS316	SS316	A 20	HC	HB

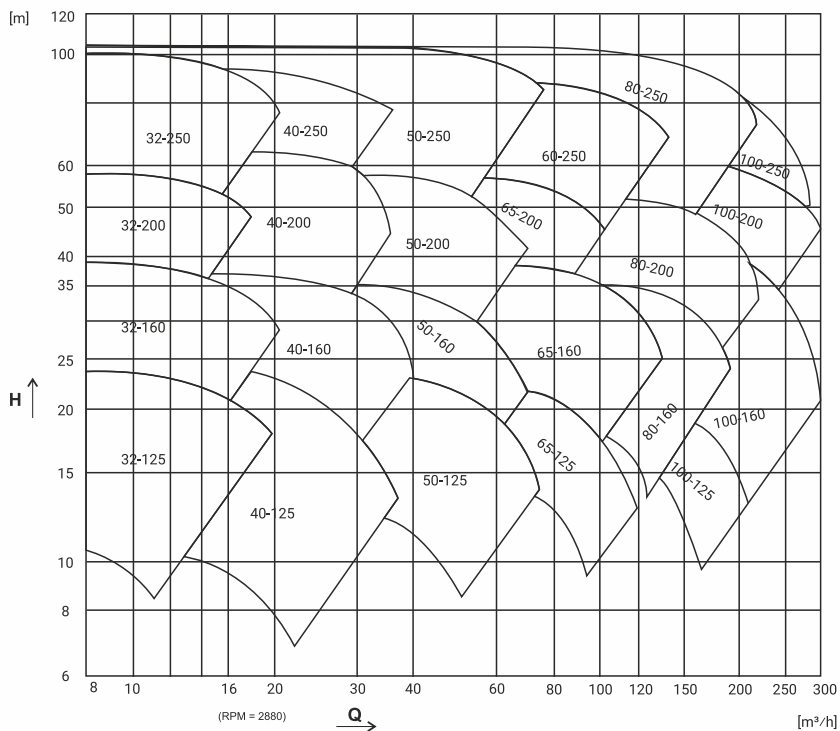
\* Recommended spares # Qty depend up on model



**FAMILY CURVES FOR 1500 RPM**



**FAMILY CURVES FOR 2880 RPM**





**MACKWELL**<sup>®</sup>  
PUMPS & CONTROLS

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