

- C.R.I. Pumps market presence is further established with the launch of yet another powerful range of pumps – ECC Series. With a host of positive and impressive features, ECC series augments the extensive range of C.R.I. Pumps. Designed to meet high pumping requirements in terms of performance and efficiency , this range of Chemical Series pumps offer 21 different ANSI B73.1 sizes of pumps that are customized to suit the specific applications of the customer. High quality, better efficiency, heavy duty, corrosive and non-corrosive liquors, suspended solids, effluents, vertical and horizontal configuration and prompt pre & post sales services are some of the key features that enhance the utility of ECC series pumps. The assurance of C.R.I. Pumps is reinforced by the commitment delivered through the performance of its new range – ECC Series that stands for performance beyond the limits of technology. The unprecedented level of engineering perfection is designed to meet the burgeoning demands across the world.

Overall Range and Performance Details					
Pump Key No.	Pump Size mm (inch)	Pump Weight (kg)	Max. Power (kW)	Min/Max Speed (rpm)	Max. Working Pressure
1	40x25x150 (1.5x1x6)	35	5	700/3600	10/16
2	80x40x150 (3x1.5x6)	40	8	700/3600	10/16
3	80x50x150 (3x2x6)	43	9	700/3600	10/16
4	40x25x200 (1.5x1x8)	43	15	700/3600	10/16
5	80x40x200 (3x1.5x8)	45	22	700/3600	10/16
6	50x25x250 (2x1x10)	100	24	700/3600	10/16
7	80x40x215 (3x1.5x8.5)	105	30	700/3600	10/16
8	80x50x215 (3x2x8.5)	110	32	700/3600	10/16
9	100x80x215 (4x3x8.5)	123	38	700/3600	10/16
10	150x100x215 (6x4x8.5)	128	45	700/3600	10/16
11	80x40x280 (3x1.5x11)	130	58	700/3600	10/16
12	80x50x280 (3x2x11)	145	75	700/3600	10/16
13	100x80x280 (4x3x11)	160	105	700/3600	10/16

14	80x40x330 (3×1.5×13)	180	85	700/3600	10/16
15	80x50x330 (3x2x13)	202	105	700/3600	10/16
16	100x80x330 (4x3x13)	222	38	700/1800	10/16
17	150x100x330 (6x4x13)	237	48	700/1800	10/16
18	200x150x330 (8x6x13)	275	90	700/1800	10/16
19	250x200x330 (10x8x13)	350	110	700/1800	10/16
20	200x150x380 (8x6x15)	325	150	700/1800	10/16
21	250x200x380 (10x8x15)	370	150	700/1800	10/16

For higher pressure mating flanges can be offered.

Exploded View and MOC

BARE PUMP ASSEMBLY SECTIONAL VIEW EXPLODED VIEW

Standard and Optional Material Combination				
Sl.No.	Description	Standard	Optional*	Optional*
1	Casing	SS316	CI	SS ALLOY
2	Impeller	SS316	CI	SS ALLOY
3	Stuffing Box	SS316	CI	SS ALLOY
4	Gland	SS316	CI	SS ALLOY
5	Shaft / Sleeve	SS / EN8/ EN9 (SAE1045)*		
6	Bearing Frame Assembly	CI		
7	Gland Sealing	GI-PTFE / Mechanical Seals*		
8	Lantern Ring	PTFE (On Gland Packed Pumps)		
9	O- Ring	Neoprene		
10	Fasteners	SS / MS		

* Many other options available.

OVERALL DIMENSIONS

Pump Size mm (Inch)	Dimensions (mm)									
	SUCT	DISC H	CP	D	2E1	2E2	F	H	X	Y
40x25x150 (1.5x1x6)	40	25	445	133	152	0	184	16	165	102
80x40x150 (3×1.5x 6)	80	40	445	133	152	0	184	16	165	102
80x50x150	80	50	445	133	152	0	184	16	165	102

(3x2x6)										
40x25x200 (1.5x1x8)	40	25	445	133	152	0	184	16	165	102
80x40x200 (3x1.5x8)	80	40	445	133	152	0	184	16	165	102
50x25x250 (2x1x10)	50	25	597	210	248	184	318	16	216	102
80x40x215 (3x1.5x8.5)	80	40	597	210	248	184	318	16	216	102
80x50x215 (3x2x8.5)	80	50	597	210	248	184	318	16	242	102
100x80x215 (4x3x8.5)	100	80	597	210	248	184	318	16	280	102
150x100x215 (6x4x8.5)	150	100	597	210	248	184	318	16	280	102
80x40x280 (3x1.5x11)	80	40	597	210	248	184	318	16	267	102
80x50x280 (3x2x11)	80	50	597	254	248	184	318	16	292	102
100x80x280 (4x3x11)	100	80	597	254	248	184	318	16	318	102
80x40x330 (3x1.5x13)	80	40	597	254	248	184	318	16	266	102
80x50x330 (3x2x13)	80	50	597	254	248	184	318	16	292	102
100x80x330 (4x3x13)	100	80	597	254	248	184	318	16	318	102
150x100x330 (6x4x13)	150	100	597	254	248	184	318	16	343	102
200x150x330 (8x6x13)	200	150	860	368	406	229	476	22	406	152
250x200x330 (10x8x13)	250	200	860	368	406	229	476	22	457	152
200x150x380 (8x6x15)	250	150	860	368	406	229	476	22	457	152
250x200x380 (10x8x15)	250	200	860	368	406	229	476	22	483	152

Services

Oil, Gas & Chemical

- Non API 610 Chemical & Process Applications
- General Refinery Services
- Erosive/Corrosive Liquors

- Chemical & Process Transfer
- Demineralised Water
- Condensates

General Industry

- Brewing & Bottling Plant Liquors
- Distillation Plant Liquors
- Maximizes bare shaft pump and spare parts interchangeability.

Standardization

- Manufactured strictly to ANSI B73.1 chemical pump specification.
- 21 horizontal ECC Series pump sizes built around 3 power frames.
- Steel Making, Mining, Effluent, and General Industrial Applications
- Reduces inventory requirements.

ECCV Series provides a vertical cantilever (tank type mounting) option that covers all 21 available pump sizes. Each vertical cantilever pump is tailor made to suit customer requirements.

Greater Wear Life

- Supplied in high-grade grey or ductile iron, carbon steel, and stainless steel alloys, and/or in combination of same.
- 316SS, 317SS, & Duplex Stainless Steel commonly employed.
- Designed for maximum wear life, minimum downtime, and reduced life time costs.
- Supplied with alternative materials of construction and/or tailored to suit specific process liquors upon request.
- Pump fasteners in 304SS or 316SS unless otherwise specified.

Ease of Maintenance

- Simplified and faster maintenance facilitated by employing spacer type couplings for "back pullout" on all horizontal models.
- By employing a back pullout design, the entire pump range has an in-built ability to remove the complete bearing frame/rotating assembly without disturbing the pump casing, suction and/or discharge pipework, or the electric motor/diesel engine driver.

Fixed / Variable Speed

- Impellers can be cut to size to suit a specific fixed speed duty or can be left full size diameter when pump is coupled to a variable speed drive.

High Performance

- Volute and impellers designed to handle and withstand erosive and/or corrosive liquors with low wear rates, high efficiencies, low suction pressure (NPSH), and lower power costs.
- Horizontal pumps effect and maintain the impeller to Casing clearance and high efficiency, by using accurate rigid shim sets.
- Vertical pumps effect same using a top side shaft coupling adjustment mechanism.
- Ability to adjust impeller clearance (to counter natural wear) without removing the pump and/or the rotating element reduces downtime and downtime costs, and maintains optimum pump performance.

Semi Open Impeller

- Semi-open impellers fitted with flow inducing vane contours and balance/relief holes.
- Designed to withstand erosion/corrosion, prevent high thrust loads, and reduce stuffing box pressures.
- Increases bearing and/or rotodynamic seal life.

Rotodynamic Sealing

- All pumps fitted, as standard, with 316SS gland plates and high grade gland packing over standard 316SS or hardened stainless steel shaft sleeves, unless otherwise specified/ requested

Options Available Are

- Alternate gland packing material.
- Single or Double Mechanical Seals.
- Single or Double Dynamic Seals.
- Special Sealing Systems (for process liquors).

High Shaft & Bearing Strength

- Oversized, high tensile (SAE1045) steel, 316SS or stainless steel alloy shafts employed (to suit up to 60Hz speed requirements).
- Similarly oversized bearing employed, with the out board (drive end) double row angular contact ball bearing designed to take a combination of radial and thrust loads, whilst the inboard (impeller end) deep groove ball bearing is designed to take radial loads only.

Lubrication

- Oil splash lubrication as standard.

- Optional oil bath or grease lubrication available.
- Vertical pumps supplied with grease lubrication only.
- Extra large oil sight glasses of constant oil levellers fitted as standard (on horizontal pumps).
- Optional electronic oil condition detectors available.
- Bearing housing oil cooling systems available upon request and/or should the application operating temperature dictate necessary.

Maximum Bearing Protection

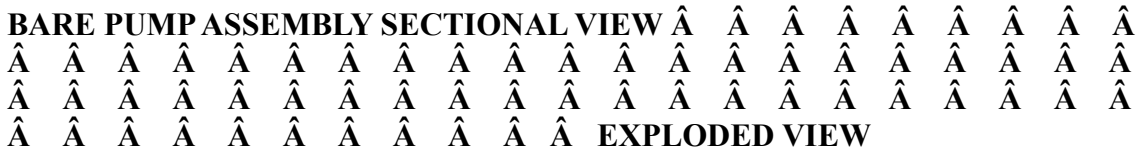
- Double protected against the ingress of liquids and/or solid particles by an effective combination of outer deflectors or labyrinth seal and inner double lip or grease seals.
- Other, more complex options available should the duty and/or application necessitate same.
- Bearing condition and general pump health can be remotely analyzed by the incorporation of electronic bearing sensors.

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4	40x25x200 (1.5x1x8)	43	15	700/3600
5	80x40x200 (3x1.5x8)	45	22	700/3600
6	50x25x250 (2x1x10)	100	24	700/3600
7	80x40x215 (3x1.5x8.5)	105	30	700/3600
8	80x50x215 (3x2x8.5)	110	32	700/3600
9	100x80x215 (4x3x8.5)	123	38	700/3600
10	150x100x215 (6x4x8.5)	128	45	700/3600
11	80x40x280 (3x1.5x11)	130	58	700/3600
12	80x50x280 (3x2x11)	145	75	700/3600
13	100x80x280 (4x3x11)	160	105	700/3600
14	80x40x330 (3x1.5x13)	180	85	700/3600
15	80x50x330 (3x2x13)	202	105	700/3600
16	100x80x330 (4x3x13)	222	38	700/1800
17	150x100x330 (6x4x13)	237	48	700/1800
18	200x150x330 (8x6x13)	275	90	700/1800
19	250x200x330 (10x8x13)	350	110	700/1800
20	200x150x380 (8x6x15)	325	150	700/1800
21	250x200x380 (10x8x15)	370	150	700/1800

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Standard and Optional Material Combination

Sl.No.	Description	Standard	Optional*	Optional*
1	Casing	SS316	CI	SS ALLOY
2	Impeller	SS316	CI	SS ALLOY
3	Stuffing Box	SS316	CI	SS ALLOY
4	Gland	SS316	CI	SS ALLOY
5	Shaft / Sleeve	SS / EN8/ EN9 (SAE1045)*		
6	Bearing Frame Assembly	CI		
7	Gland Sealing	GI-PTFE / Mechanical Seals*		
8	Lantern Ring	PTFE (On Gland Packed Pumps)		
9	O- Ring	Neoprene		
10	Fasteners	SS / MS		

* Many other options available.

OVERALL DIMENSIONS

Pump Size mm (Inch)	Dimensions (mm)								
	SUCT	DISCH	CP	D	2E1	2E2	F	H	X
40x25x150 (1.5x1x6)	40	25	445	133	152	0	184	16	165
80x40x150 (3x1.5x 6)	80	40	445	133	152	0	184	16	165
80x50x150 (3x2x6)	80	50	445	133	152	0	184	16	165
40x25x200 (1.5x1x8)	40	25	445	133	152	0	184	16	165
80x40x200 (3x1.5x8)	80	40	445	133	152	0	184	16	165
50x25x250 (2x1x10)	50	25	597	210	248	184	318	16	216
80x40x215	80	40	597	210	248	184	318	16	216

(3×1.5×8.5)									
80x50x215 (3x2x8.5)	80	50	597	210	248	184	318	16	242
100x80x215 (4x3x8.5)	100	80	597	210	248	184	318	16	280
150x100x215 (6x4x8.5)	150	100	597	210	248	184	318	16	280
80x40x280 (3×1.5×11)	80	40	597	210	248	184	318	16	267
80x50x280 (3x2x11)	80	50	597	254	248	184	318	16	292
100x80x280 (4x3x11)	100	80	597	254	248	184	318	16	318
80x40x330 (3×1.5×13)	80	40	597	254	248	184	318	16	266
80x50x330 (3x2x13)	80	50	597	254	248	184	318	16	292
100x80x330 (4x3x13)	100	80	597	254	248	184	318	16	318
150x100x330 (6x4x13)	150	100	597	254	248	184	318	16	343
200x150x330 (8x6x13)	200	150	860	368	406	229	476	22	406
250x200x330 (10x8x13)	250	200	860	368	406	229	476	22	457
200x150x380 (8x6x15)	250	150	860	368	406	229	476	22	457
250x200x380 (10x8x15)	250	200	860	368	406	229	476	22	483

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15	80x50x330 (3x2x13)	202	105	700/3600
16	100x80x330 (4x3x13)	222	38	700/1800
17	150x100x330 (6x4x13)	237	48	700/1800
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20	200x150x380 (8x6x15)	325	150	700/1800
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4	Gland	SS316	CI	SS ALLOY
5	Shaft / Sleeve	SS / EN8/ EN9 (SAE1045)*		
6	Bearing Frame Assembly	CI		
7	Gland Sealing	GI-PTFE / Mechanical Seals*		
8	Lantern Ring	PTFE (On Gland Packed Pumps)		
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80x50x150 (3x2x6)	80	50	445	133	152	0	184	16	165

40x25x200 (1.5x1x8)	40	25	445	133	152	0	184	16	165
80x40x200 (3x1.5x8)	80	40	445	133	152	0	184	16	165
50x25x250 (2x1x10)	50	25	597	210	248	184	318	16	216
80x40x215 (3x1.5x8.5)	80	40	597	210	248	184	318	16	216
80x50x215 (3x2x8.5)	80	50	597	210	248	184	318	16	242
100x80x215 (4x3x8.5)	100	80	597	210	248	184	318	16	280
150x100x215 (6x4x8.5)	150	100	597	210	248	184	318	16	280
80x40x280 (3x1.5x11)	80	40	597	210	248	184	318	16	267
80x50x280 (3x2x11)	80	50	597	254	248	184	318	16	292
100x80x280 (4x3x11)	100	80	597	254	248	184	318	16	318
80x40x330 (3x1.5x13)	80	40	597	254	248	184	318	16	266
80x50x330 (3x2x13)	80	50	597	254	248	184	318	16	292
100x80x330 (4x3x13)	100	80	597	254	248	184	318	16	318
150x100x330 (6x4x13)	150	100	597	254	248	184	318	16	343
200x150x330 (8x6x13)	200	150	860	368	406	229	476	22	406
250x200x330 (10x8x13)	250	200	860	368	406	229	476	22	457
200x150x380 (8x6x15)	250	150	860	368	406	229	476	22	457
250x200x380 (10x8x15)	250	200	860	368	406	229	476	22	483