

BCH SHAKTI STARTERS



BCH ELECTRIC LIMITED

Starters

“SHAKTI” Starters

BCH Manufacture a wide range of motor starters to suit every application in the field. The capacity starts from fractional horse power to 250hp completely assembled ready to use units with built in overload and single phasing protection.

“SHAKTI” DOL & STAR-DELTA Starters upto15Hp/11kW

Shakti starter complies with IEC : 60947-4-1 and is designed for operation and protection of agricultural pump motors. It can also be used for other motors by appropriate current setting of the overload relays. The starter is housed in a powder coated, deepdrawn, sheetsteel enclosure resistant to the entry of dust and falling water. The starter comprises of a contactor, overload relay and push buttons.

Contactor rating

20A AC3 duty upto relay range 8.9 -13.5A, 13.2-20A & 17.4 -24A. These starters are provided with wide band coil where the operating voltage range is 190-400V. Other coil voltages can also be offered.

“WP” Overload Relay

Extremely accurate bi-metallic Thermal Overload Relay is used in these starters. It is phase loss sensitive and ambient temperature compensated trip class of the relay is 10.

Overload Relay

- **Overload Protection** :The relay fitted in the starter protects the motor from operational overload as per relevant standards established for the protection of motors. The current setting on any relay is between 100% to 160% of its minimum setting.
- Single Phasing Protection
- Protection against unbalanced voltage
- Excellent temperature compensation between -10°C and +81°C (+ 55°C max ambient).
- Facility for selection of either manual or automatic resetting of the trip switch.
- Test facility for tripping relay manually for checking of the circuit and wiring.
- Snap -on cover to prevent inadvertent alteration to the setting of current adjustment or to the hand / auto lever.

Characteristics	
Reference Standard	IEC:60947-4-1
Rating	6.0 - 13.5Amps
Operating Voltage	190 - 400V, 50Hz
Insulation Voltage	600V
Ac3 Current Rating	20 Amp.
Enclosure Category	IP40
Imbalance Sense Voltage	45 - 55V

DOL Starter Range:

- Range upto 30HP
- Excellent temperature compensation between -10°C and +80°C (+55°C max ambient)
- Selection of manual & automatic resetting of overload relay.
- Wide band coil from 190- 400V (Other coil band options are also available).

Motor Output		Overload Relay range (A)	Catalogue code	Catalogue code	HRC fuse type
kW	Hp				
0.37	0.5	0.72-1.14	-	SAWPD *	4
0.55	0.75	1.07-1.70	-	SAWPE *	6
0.75	1.0	1.58-2.50	-	SAWPF *	10
1.5	2.0	2.4 3.8	SAG*	SAWPG*	16
2.2	3.0	3.8-6.0	SAH*	SAWPH*	20
3.7	5.0	6.0-9.3	SAJ*	SAWPJ *	25
5.5	7.5	8.9-13.5	SAK*	SAWPK*	36
7.5	10	13.2-20.0	SAL*	SAWPL*	50
11	15	17.4-24.0	SAM*	SAWPM*	63

* FOR 380-415V replace 'Z' with 'N' and for 220/240V replace 'Z' with 'H' in catcode.

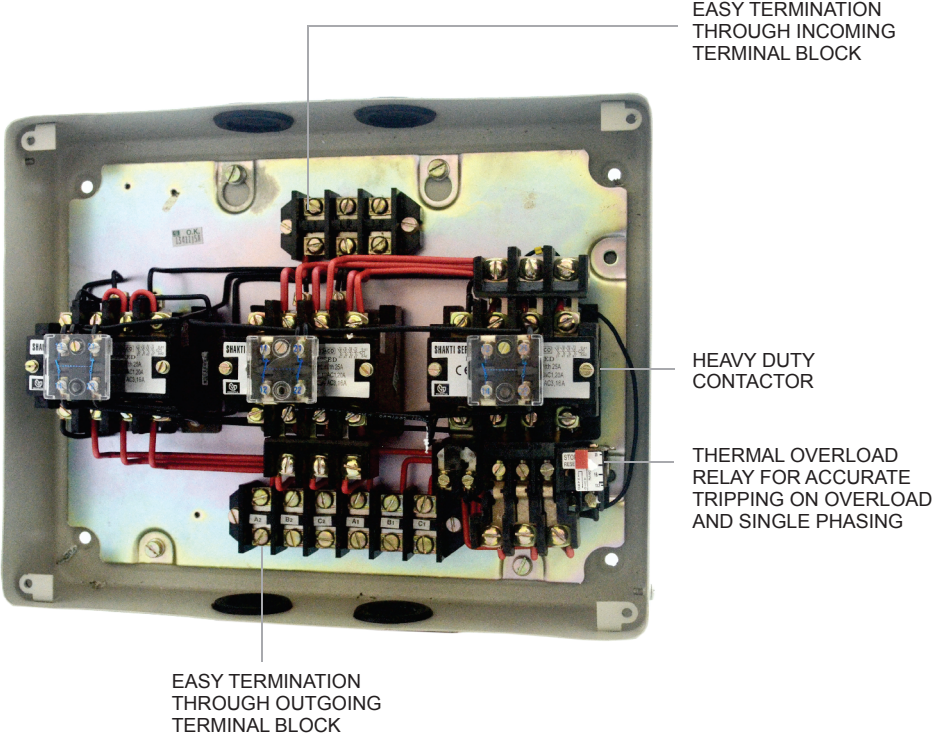
Auto - Start DOL Starters:

- Range upto 15HP
- Wide band coil 190-400V, 230-420V 50Hz.
- AutoStart with On - Delay Timer
- Auto/Manual Mode
- Phase reversal protection
- Phase imbalance protection
- Single phasing protection

KW	HP	Overload Relay Range(A)	Standard Version	Premium Version	HRC Fuse Type
1.2	1.5	2.4 - 3.8	ASAGZ	ASXGZ	10A
2.2	3	3.8 - 6.0	ASAHZ	ASXHZ	16A
3.7	5	6.0 - 9.3	ASAJZ	ASXJZ	24A
5.5	7.5	8.9 - 13.5	ASAKZ	ASXKZ	35A
7.5	10	13.2 - 20	ASALZ	ASXLZ	40A
11	15	17.4 - 24	ASAMZ	ASXMZ	63A

STAR - DELTA Starter Range:

- Available with wide band operating coil (260 -400VAC).
- Automatic version with electronic timer for reliable changeover.
- Protects your motor from Overload, single phasing & phase imbalance.
- Terminal blocks for easy wiring & safety to components.

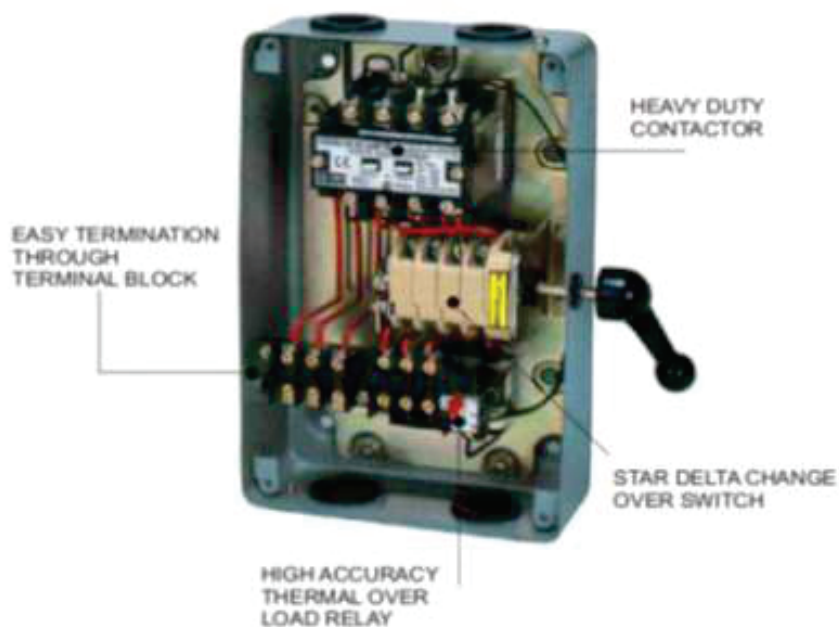


Motor Output 415V3 Phase		Relay range	SEMI AUTOMATIC	Backup Fuse Amp
kW	Hp		Catalogue	
2.2	3	2.4-3.8	SASSGLE*	10
3.7	5	3.8-6.0	SASSHLE*	16
7.5	10	6.0-9.3	SASSJLE*	20
11	15	8.9-13.5	SASSKLE*	32
11	15	13.2-20.0	SASSKLEG/LOR	32
11	15	17.4-24.0	SASSKLEN-M	

Motor Output 415V3Phase		Relay range	FULLY AUTOMATIC	Backup Fuse Amp
kW	Hp		Catalogue	
2.2	3	2.4-3.8	SASAGLE*	10
3.7	5	3.8-6.0	SASAHLE*	16
7.5	10	6.0-9.3	SASAJLE*	20
11	15	8.9-13.5	SASAKLE*	32
11	15	13.2-20.0	SASAKLEG/LOR	32
11	15	13.2-20.0	SASAKLEN-MOR	

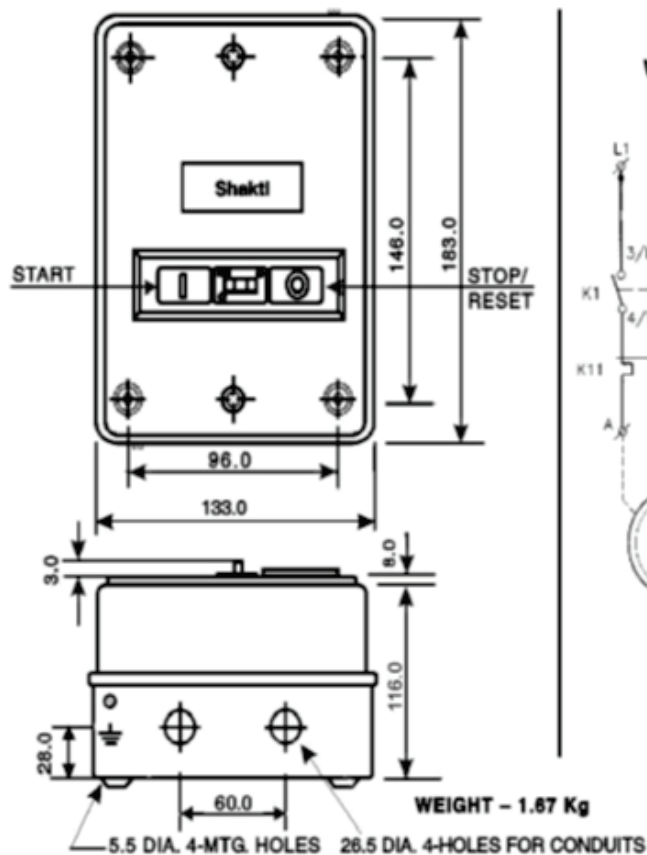
Manual Star Delta Starters Range:

- Suitable for 3 phase motors upto 15hp/11KW
- AC-3,16/25A contact or with wideband operating coil
- Citation relays protect your motors against -Overload, single phasing and phase imbalance
- Simple construction for easy maintenance
- Change over from Star to Delta through switch
- Starter can be set for manual or auto reset.



Motor Output 415v (3Ph,50Hz)		Relay Range (Amp)	Contactor size	Cat. Code	HRC Fuse rating
KW	Hp				
2.2	3	2.4-3.8	00	HASSGLEN	10A
3.7	5	3.8-6	00	HASSHLEN	16A
7.5	10	6-9.3	00	HASSJLEN	20A
11	15	8.9 13.5	0	HASSKLEN	32A

DOL SHAKTI STARTER



WIRING DIAGRAM

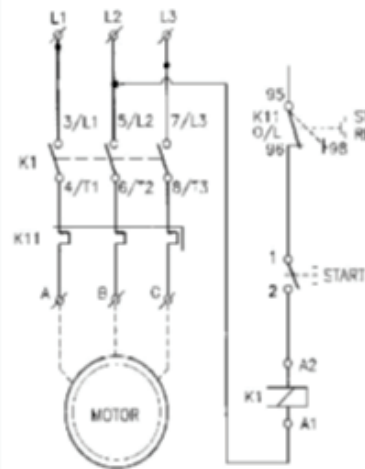


Fig. 1

CONTROL CIRCUIT (FOR REMOTE CONTROL)

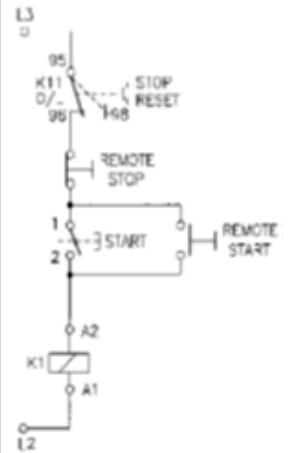
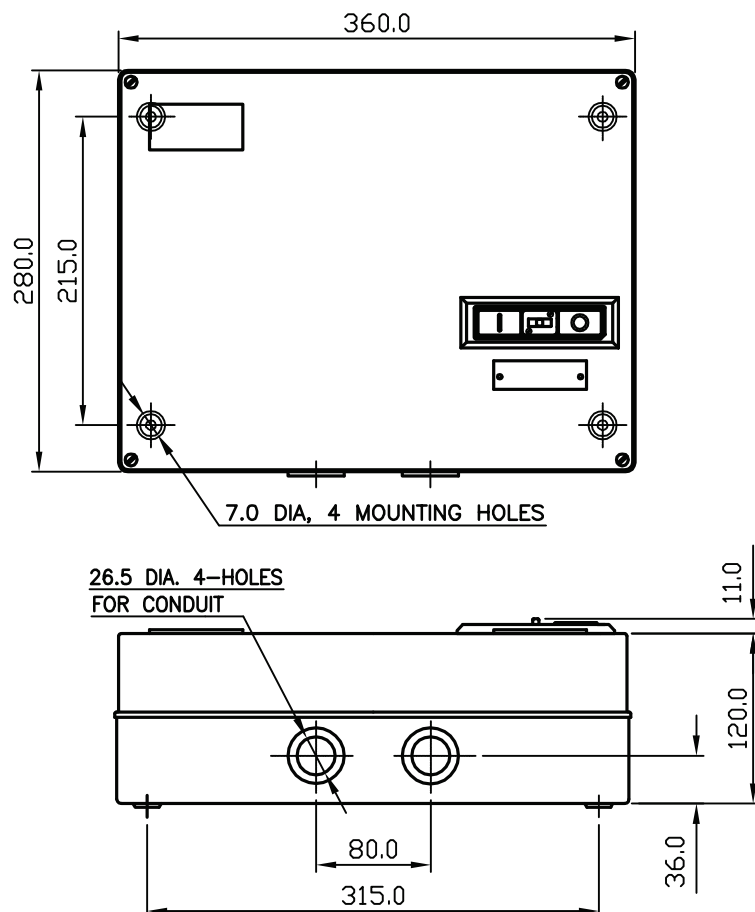
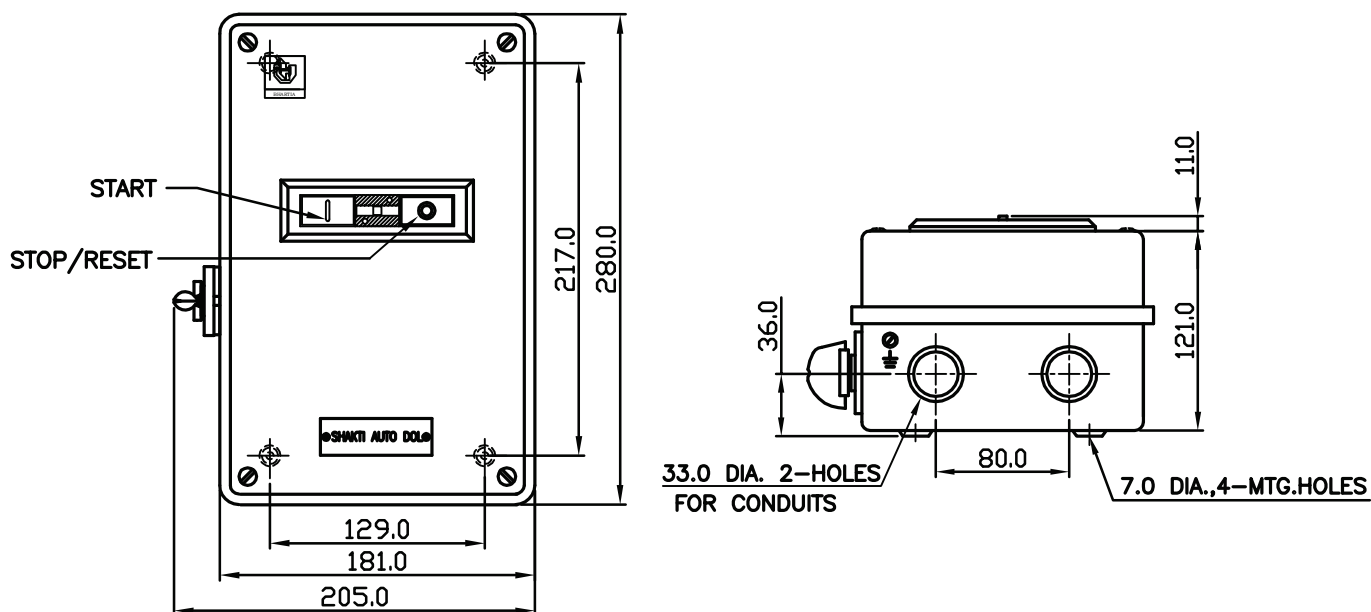


Fig. 2

SHAKTI SASD & FASD STARTER

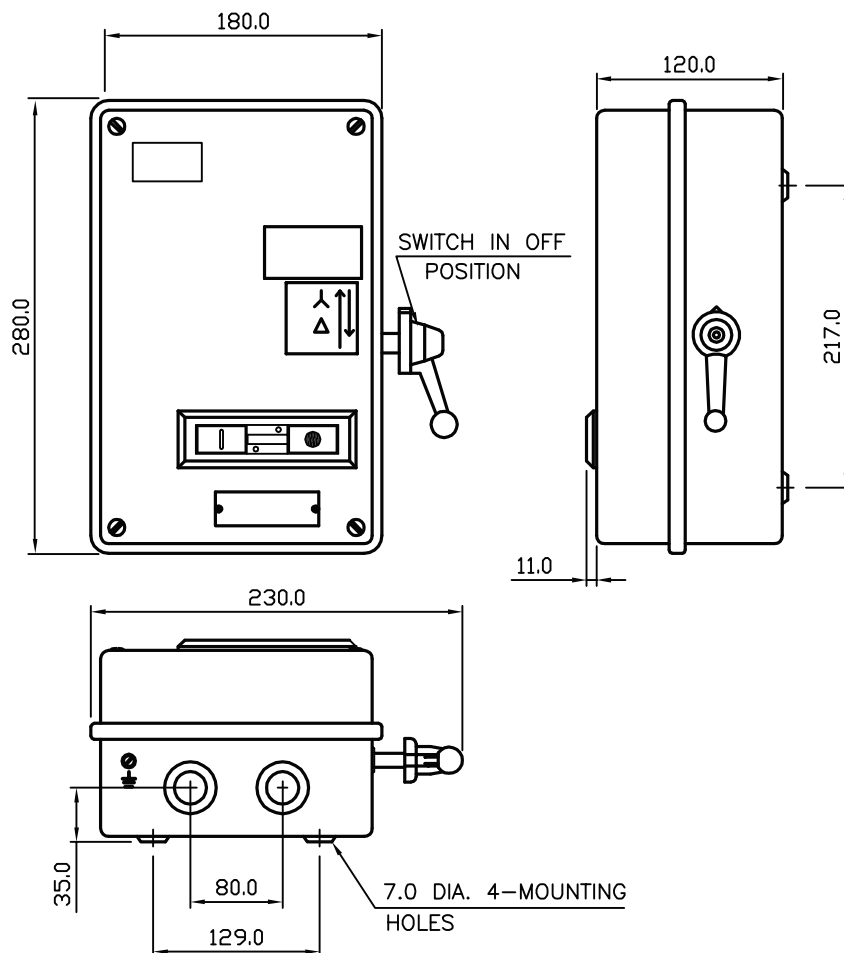


AUTO DOL SHAKTI STARTER



MANUAL STAR - DELTA STARTER

OVERALL DIMENSIONS



Switchgear & Control Gear

Motor Starters &
Submersible Pump Starters

Automation

Enclosures

Electric Motors

Wires & Cables

Reactive Power Management

Brakes and Crane Control

Custom Build Products

a strong commitment to serve better always ...



BCH ELECTRIC LIMITED

Visit us at : www.bchindia.com

Corporate Office : 1105, New Delhi House, 27, Barakhamba Road, New Delhi - 110 001 Tel. : 91-11-23316029/3610/6539/43673100 Fax : 91-11-23715247

CIN : U31103WB1965PLC026427, Customercare No. 1800-103-9262, E-mail : marketing@bchindia.com

Registered Office : Block 1E, 216, Acharya Jagadish Chandra Bose Road, Kolkata - 700 017

Works 1 : 20/4, Mathura Road, Faridabad - 121 006 (Haryana) Tel. : 0129-4063000/4293000 Fax : 0129-2304016

Works 2 : 64-68, Sector-7, IIE, Pant Nagar, Rudrapur, Udham Singh Nagar - 263 153 (Uttarakhand) Tel. : 05944-250214/16 Fax : 05944-250215

Sales Offices :

Ahmedabad

93, City Centre,
Near Swastik Char Rasta,
C.G. Road, Navrangpura,
Ahmedabad- 380 009
Tel. : 079-26565719/40074482
Fax : 079-26565719
E-mail : ahmedabad@bchindia.com

Bangalore

B.M.H. Complex, 2nd Floor,
No. 22, Kengal Hanumanthiah Road,
Bangalore - 560 027
Tel. : 080-22273478/41144878/41144879
Fax : 080-22236759
E-mail : bangalore@bchindia.com

Chandigarh

SCO 121-22-23, 1st Floor,
Sector 34-A, Chandigarh - 160 022
Tel. : 0172-5078957/2666122
Fax : 0172-5049905
E-mail : chandigarh@bchindia.com

Chennai

Flat No. 3A, 3rd Floor,
Sree Apartments,
No.508, TTK Road,
Alwarpet, Chennai 600 018
Tel. : 044-24337046, 24337047
Fax : 044-24337047
E-mail : chennai@bchindia.com

Coimbatore

87, Dr. Nanjappa Road,
Coimbatore - 641 018
Tel. : 0422-2305311
Fax : 0422-2302599
E-mail : coimbatore@bchindia.com

Dehradun

8, Co-operative Industrial Estate,
Patel Nagar, Dehradun-248001
E-mail : dehradun@bchindia.com

Faridabad

20/4, Mathura Road,
Faridabad - 121 006 (Haryana)
Tel. : 0129-2304016
E-mail : faridabad@bchindia.com

Hyderabad

1-8-303/48/13/102, Arya One,
2nd Floor, P. G. Road,
Secunderabad - 500 003
Tel. : 040-66206263/27890306
Fax : 040-66207273
E-mail : hyderabad@bchindia.com

Indore

330-331, Indraprastha Tower,
3rd Floor, 6, M.G. Road,
Indore - 452 001
Tel. : 0731-2510011
Fax : 0731-2510012
E-mail : indore@bchindia.com

Jaipur

25, Hathroi, Gopalbari,
Jaipur - 302 001
Tel. : 0141-5104521
Fax : 0141-2363521
E-mail : jaipur@bchindia.com

Jamshedpur

3rd Floor, Aastha Trade Centre,
'Q' Road, Bistupur,
Jamshedpur - 831 001
Tel. : 0657-2321097/2321481
E-mail : jamshedpur@bchindia.com

Kolkata

Block 1E, 216,
Acharya Jagadish Chandra Bose Road,
Kolkata - 700 017
Tel. : 033-22871728
E-mail : kolkata@bchindia.com

Lucknow

Madan Plaza, 3rd Floor,
14, Station Road,
Lucknow - 226 001
Tel. : 0522-4025597/4025997
Fax : 0522-4025697
E-mail : lucknow@bchindia.com

Ludhiana

S.C.O. - 18, 2nd Floor,
Feroze Gandhi Market,
Ludhiana - 140 001
Tel. : 0161-5021807/5022808
Fax : 0161-5021807
E-mail : ludhiana@bchindia.com

Mumbai

A-151, Mittal Tower,
Nariman Point,
Mumbai - 400 021
Tel. : 022-22822947/22850162
Fax : 022-22822858
E-mail : mumbai@bchindia.com

Nagpur

Flat No. T/12, 3rd Floor
Baldeo Apartment,
Behind Railway Station, Bajerla
Nagpur (M.S.) - 440018
E-mail : nagpur@bchindia.com

New Delhi

801, Akash Deep Building,
26A, Barakhamba Road,
New Delhi - 110 001
Tel. : 011-23313878/66307065
Fax : 011-23739230
E-mail : delhi@bchindia.com

Pune

8, Sarosh Bhavan,
16-B/1, Dr. Ambedkar Road,
Pune - 411 001
Tel. : 020-26052590
Telefax : 020-26135224
E-mail : pune@bchindia.com

Raipur

2nd Floor, Building No. B-234,
Indira Gandhi Vyasayik Parisar,
Pandri, Raipur - 492 004
Tel. : 0771-4020213
Fax : 0771-2582680
E-mail : raipur@bchindia.com

Trichy

Kingstone Park, 2nd Floor,
19/1, Puthur High Road,
Ramalinga Nagar,
Trichy - 620 017
Tel. : 0431-4040497
E-mail : trichy@bchindia.com

Vadodara

301, Third Floor, "Florence Classic",
10, Ashapuri Co-Op. Hsg. Soc. Ltd., Opp. VUDA Housing,
Near Cow Circle, Akota, Vadodara - 390 020
Tel. : +91-265-6548444/2345068/2345069
Telefax : 0265-2345068,
E-mail : vadodara@bchindia.com

Other Branch Locations

Bhubaneswar : bhubaneswar@bchindia.com, **Cochin :** cochin@bchindia.com, **Gurgaon :** gurgaon@bchindia.com, **Guwahati :** guwahati@bchindia.com, **Hospet :** hospet@bchindia.com,
Hubli : hubli@bchindia.com, **Madurai :** madurai@bchindia.com, **Vishakapatnam :** vizag@bchindia.com, **Surat :** surat@bchindia.com

Resident Engineer Locations

Baddi	Gurgaon	Madurai	Rajahmundry
Bardhaman	Haridwar	Muzaffarnagar	Salem
Bhilai	Hubli	Nagpur	Surat
Bhubaneswar	Hospet	Nashik	Udaipur
Cochin	Jodhpur	Patna	Vapi
Dehradun	Kakinada	Puducherry	Vishakhapatnam
Durgapur	Kota	Rajkot	Warangal

Since product improvement is a continuous process, the data furnished in this brochure may undergo revision without prior notice.