



**Amb. Temp. : 50°C**

| BRAND                          | FRAME        | POLE | VOLTS | C/S |
|--------------------------------|--------------|------|-------|-----|
| <b>CHALLENGER<sup>++</sup></b> | SE90S-SE315L | 2    | 415   | 50  |

| FRAME SIZE                                    | SE90S    | SE90L    | SE100L  | SE132S  | SE132S   | SE160M   | SE160M  | SE160M  |
|---|----------|----------|---------|---------|----------|----------|---------|---------|
| OUTPUT (KW/HP)                                | 1.5/ 2.0 | 2.2/ 3.0 | 3.7/5.0 | 5.5/7.5 | 7.5 / 10 | 9.3/12.5 | 11 / 15 | 15 / 20 |
| F.L.RPM                                       | 2860     | 2860     | 2870    | 2880    | 2910     | 2920     | 2910    | 2930    |
| F.L.AMPS                                      | 2.9      | 4.1      | 6.5     | 9.6     | 13.0     | 15.7     | 18.6    | 25.4    |
| EFFICIENCY<br>( % )                           | 100%*    | 84.5     | 85.6    | 87.6    | 88.6     | 89.5     | 90.5    | 91.3    |
|   | 75%      | 84.0     | 85.6    | 87.6    | 88.6     | 89.5     | 90.0    | 90.5    |
|   | 50%      | 82.0     | 82.5    | 84.5    | 85.0     | 88.0     | 87.0    | 88.0    |
| POWER<br>FACTOR                               | 100%     | 0.85     | 0.87    | 0.91    | 0.90     | 0.90     | 0.91    | 0.90    |
|   | 75%      | 0.76     | 0.82    | 0.90    | 0.88     | 0.88     | 0.90    | 0.88    |
|   | 50%      | 0.68     | 0.70    | 0.88    | 0.87     | 0.83     | 0.88    | 0.81    |
| APPROX. NO LOAD<br>CURRENT (AMPS)             | 1.5      | 1.8      | 1.9     | 2.0     | 3.2      | 4.0      | 4.1     | 6.5     |
| STARTING<br>CURRENT ( X FLC )                 | 650      | 700      | 700     | 600     | 700      | 650      | 600     | 600     |
| STARTING TORQUE<br>(X FLT)                    | 300      | 320      | 250     | 220     | 260      | 220      | 210     | 180     |
| PULL OUT TORQUE<br>(XFLT)                     | 370      | 380      | 380     | 280     | 350      | 320      | 280     | 270     |
| SAFE STALL TIME<br>-COLD/ HOT(sec.)           | 14/11    | 14/11    | 14/11   | 13/11   | 13/11    | 32/24    | 32/24   | 32/22   |
| ROTOR GD <sup>2</sup><br>(Kg-m <sup>2</sup> ) | 0.0104   | 0.0146   | 0.042   | 0.0725  | 0.0936   | 0.188    | 0.188   | 0.225   |
| APPROX. MOTOR<br>WT. (KG)                     | 36       | 41       | 50      | 69      | 77       | 165      | 165     | 170     |
| TERMINAL BOX<br>POSITION **                   | SIDE     | SIDE     | SIDE    | SIDE    | SIDE     | SIDE     | SIDE    | TOP     |

\* EFF.1 as per IS:12615-2004/CEMEP

\*\* TOP T.Box can also be provided, in case of motor with SIDE T.Box for frame 160 & above - if reqd.

| ISSUE<br>DATE         | A<br>24.08.07          | B<br>14.12.07 |                             |  |                            |  |
|-----------------------|------------------------|---------------|-----------------------------|--|----------------------------|--|
| SIGN.<br>NAME<br>DATE | M.MANDAL<br>14.12.2007 |               | K.G.CHOUDHURY<br>14.12.2007 |  | RAJIV RANJAN<br>14.12.2007 |  |
|                       | PREPARED BY            |               | CHECKED BY                  |  | APPROVED BY                |  |

Note :- 1) All figures are subject tolerance as per IS:325

2) Efficiency figures are without oil seal during testing.

3) For motor rated 75KW & above unidirectional fan may be used.



**Amb. Temp. : 50°C**

| BRAND                          | FRAME        | POLE | VOLTS | C/S |
|--------------------------------|--------------|------|-------|-----|
| <b>CHALLENGER<sup>++</sup></b> | SE90S-SE315L | 2    | 415   | 50  |

| FRAME SIZE                                    | SE160L   | SE180M  | SE200L  | SE200L  | SE225M | SE250M |      |
|---|----------|---------|---------|---------|--------|--------|------|
| OUTPUT (KW/HP)                                | 18.5/ 25 | 22 / 30 | 30 / 40 | 37 / 50 | 45/ 60 | 55/75  |      |
| F.L.RPM                                       | 2930     | 2960    | 2965    | 2965    | 2955   | 2960   |      |
| F.L.AMPS                                      | 30.4     | 37.7    | 49.3    | 61.3    | 74.2   | 91.4   |      |
| EFFICIENCY<br>( % )                           | 100%*    | 92.0    | 92.2    | 93.0    | 93.3   | 93.7   | 94   |
|   | 75%      | 91.8    | 91.2    | 92.0    | 92.5   | 93.3   | 93.5 |
|   | 50%      | 89.0    | 88.0    | 89.0    | 89.5   | 91.0   | 91.5 |
| POWER<br>FACTOR                               | 100%     | 0.92    | 0.88    | 0.91    | 0.90   | 0.90   | 0.89 |
|   | 75%      | 0.90    | 0.86    | 0.90    | 0.89   | 0.89   | 0.88 |
|   | 50%      | 0.86    | 0.80    | 0.86    | 0.85   | 0.85   | 0.82 |
| APPROX. NO LOAD<br>CURRENT (AMPS)             | 10.0     | 11.0    | 14.0    | 17.0    | 23.0   | 26.0   |      |
| STARTING<br>CURRENT ( X FLC )                 | 700      | 650     | 700     | 650     | 600    | 700    |      |
| STARTING<br>TORQUE (X FLT)                    | 210      | 220     | 200     | 170     | 160    | 180    |      |
| PULL OUT<br>TORQUE (XFLT)                     | 270      | 280     | 280     | 270     | 270    | 280    |      |
| SAFE STALL TIME<br>-COLD/ HOT(sec.)           | 32/22    | 32/17   | 50/30   | 50/30   | 24/18  | 24/18  |      |
| ROTOR GD <sup>2</sup><br>(Kg-m <sup>2</sup> ) | 0.225    | 0.49    | 0.93    | 0.93    | 1.56   | 1.95   |      |
| APPROX. MOTOR<br>WT. (KG)                     | 170      | 236     | 340     | 340     | 465    | 515    |      |
| TERMINAL BOX<br>POSITION **                   | TOP      | TOP     | TOP     | TOP     | TOP    | TOP    |      |

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| SIGN.<br>NAME<br>DATE | M.MANDAL<br>14.12.2007 |               | K.G.CHOUDHURY<br>14.12.2007 |  | RAJIV RANJAN<br>14.12.2007 |  |
|                       | PREPARED BY            |               | CHECKED BY                  |  | APPROVED BY                |  |

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3) For motor rated 75KW & above unidirectional fan may be used.

| BRAND                          | FRAME        | POLE | VOLTS | C/S |
|--------------------------------|--------------|------|-------|-----|
| <b>CHALLENGER<sup>++</sup></b> | SE90S-SE315L | 2    | 415   | 50  |



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| FRAME SIZE                                 | SE280S | SE280M | SE315S  | SE315M  | SE315L  |      |
|--|--------|--------|---------|---------|---------|------|
| OUTPUT (KW/HP)                             | 75/100 | 90/120 | 110/150 | 132/175 | 160/214 |      |
| F.L.RPM                                    | 2970   | 2970   | 2970    | 2975    | 2975    |      |
| F.L.AMPS                                   | 124    | 146    | 179     | 214     | 256     |      |
| EFFICIENCY (%)                             | 100%*  | 94.6   | 95.0    | 95.0    | 95.3    | 95.5 |
|  | 75%    | 94.0   | 94.3    | 94.5    | 94.3    | 95.0 |
|  | 50%    | 92.0   | 92.0    | 92.5    | 92.5    | 93.0 |
| POWER FACTOR                               | 100%   | 0.89   | 0.90    | 0.90    | 0.90    | 0.91 |
|  | 75%    | 0.86   | 0.88    | 0.89    | 0.89    | 0.90 |
|  | 50%    | 0.79   | 0.83    | 0.86    | 0.85    | 0.87 |
| APPROX. NO LOAD CURRENT (AMPS)             | 44.0   | 46.0   | 48.0    | 55.0    | 60.0    |      |
| STARTING CURRENT ( X FLC )                 | 650    | 650    | 600     | 600     | 600     |      |
| STARTING TORQUE (X FLT)                    | 175    | 160    | 150     | 165     | 160     |      |
| PULL OUT TORQUE (XFLT)                     | 280    | 280    | 265     | 270     | 250     |      |
| SAFE STALL TIME -COLD/ HOT(sec.)           | 58/44  | 58/44  | 46/35   | 46/35   | 44/32   |      |
| ROTOR GD <sup>2</sup> (Kg-m <sup>2</sup> ) | 3.65   | 4.1    | 4.6     | 7.7     | 8.9     |      |
| APPROX. MOTOR WT. (KG)                     | 900    | 940    | 856     | 1190    | 1210    |      |
| TERMINAL BOX POSITION **                   | SIDE   | SIDE   | SIDE    | SIDE    | SIDE    |      |

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| SIGN. NAME DATE | M.MANDAL<br>14.12.2007 | K.G.CHOUDHURY<br>14.12.2007 | RAJIV RANJAN<br>14.12.2007 |  |  |
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3) For motor rated 75KW & above unidirectional fan may be used.

Amendment

Issue : A, Original Issue, Dt. 24.08.07

Issue : B, Company's Name & signatory changed, Dt. 14.12.07