

# VALIADIS S.A.

## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

|                              |      |                   |      |                   |      |                   |
|------------------------------|------|-------------------|------|-------------------|------|-------------------|
| <b>NAMEPLATE DATA</b>        | IEC  | <b>TYPE</b>       | 0.55 | <b>KW</b>         | 690  | <b>RPM</b>        |
| AK90L - 8 <b>FRAME</b>       | 3    | <b>PHASE</b>      | 400  | <b>VOLTS</b>      | 50   | <b>HZ/CYCLES</b>  |
| 63.5 <b>EFFICIENCY</b>       | 2.12 | <b>AMPS</b>       | 55   | <b>IP</b>         | IC01 | <b>IC</b>         |
| 8 <b>POLE</b>                | S1   | <b>DUTY</b>       | 0.59 | <b>PF</b>         | N/A  | <b>EFF2</b>       |
| VALIADIS <b>MANUFACTURER</b> |      | <b>SERIAL NO.</b> | F    | <b>INS. CLASS</b> | Y    | <b>CONNECTION</b> |

| <b>MAJOR CONTENTS</b>                  | <b>UNIT</b> | <b>TESE VALUE</b>       |
|--|-------------|-------------------------|
| STATOR RESISTANCE OF PHASE TO PHASE    | 75 DEG.C    | OHM 27.4016             |
| NO LOAD CURRENT                        |             | AMP 1.87                |
| NO LOAD INPUT                          |             | kW 0.219                |
| CORE LOSS (Pfe)                        |             | kW 0.074                |
| WINDAGE FRICTION LOSS (Pfw)            |             | kW 0.006                |
| STATOR WINDING LOSS(Pcu1)              |             | kW 0.1847               |
| ROTOR WINDING LOSS(Pcu2)               |             | kW 0.0478               |
| STRAY LOAD LOSS (Ps)                   |             | kW 0.0043               |
| FULL LOAD CURRENT                      |             | AMP 2.12                |
| LOCKED ROTOR CURRENT                   |             | AMP 7.16                |
| LOCKED ROTOR CURRENT/FULL LOAD CURRENT |             | P.U. 3.4                |
| LOCKED ROTOR INPUT @ 100% VOLT         |             | kW 3.253                |
| FULL LOAD TORQUE                       |             | N.m. 7.59               |
| LOCKED ROTOR TORQUE                    |             | N.m. 17.80              |
| LOCKED ROTOR TORQUE/FULL LOAD TORQUE   |             | P.U. 2.34               |
| PULL OUT TORQUE                        |             | N.m. 23.64              |
| PULL OUT TORQUE/FULL LOAD TORQUE       |             | P.U. 3.11               |
| PULL UP TORQUE                         |             | N.m. 12.67              |
| PULL UP TORQUE/FULL LOAD TORQUE        |             | P.U. 1.67               |
| EFFICIENCY @ FULL LOAD                 |             | % 63.43                 |
| POWER FACTOR @ FULL LOAD               |             | 0.590                   |
| FULL LOAD SLIP                         |             | 7.87%                   |
| FULL LOAD SPEED                        |             | r/min 691               |
| STATOR WINDING TEMPERATURE RISE        | 30 SECS     | K 47.6                  |
| DE BEARING TEMPERATURE BY PT100        |             | Deg. C 68.0             |
| NDE BEARING TEMPERATURE BY PT100       |             | Deg. C 68.0             |
| TEMPERATURE ON LEADS BY PT100          |             | Deg. C                  |
| TEMPERATURE IN TERMINAL BOX BY PT100   |             | Deg. C                  |
| AMBIENT TEMPERATURE BY PT100           |             | Deg. C                  |
| SOUND PRESSURE LEVEL                   |             | dB (A) 40.6             |
| VIBRATION                              |             | mm/s 0.9                |
| MOMENT OF INERTIA                      |             | kgm <sup>2</sup> 0.0035 |
| WEIGHT                                 |             | kg 14                   |

The data above is calculated as per IEC 34-2 , all data at nominal Volts

|  |  |  |  |                |            |                     |  |
|--|--|--|--|----------------|------------|---------------------|--|
| <b>VALIADIS S.A.</b>   |  |  |  | <b>SCALE</b>   | <b>N/A</b> |                     |  |
|  |  |  |  | <b>DATE</b>    |            | <b>REV</b>          |  |
| <b>AK90L - 8</b><br><b>0.55 kW</b><br><b>400 VOLTS 50 Hz</b> |  |  |  | <b>DRAWN</b>   |            | <b>DOCUMENT NO.</b> |  |
|  |  |  |  | <b>APPRVD</b>  |            |                     |  |
|  |  |  |  | <b>CHECKED</b> |            |                     |  |

# VALIADIS S.A.

## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

|                       |              |            |       |            |       |            |
|-----------------------|--------------|------------|-------|------------|-------|------------|
| <b>NAMEPLATE DATA</b> | IEC          | TYPE       | 0.55  | KW         | 690   | RPM        |
| AK90L - 8             | FRAME        | 3          | PHASE | 400        | VOLTS | 50         |
| 63.5                  | EFFICIENCY   | 2.12       | AMPS  | 55         | IP    | IC01       |
| 8                     | POLE         | S1         | DUTY  | 0.59       | PF    | N/A        |
| VALIADIS              | MANUFACTURER | SERIAL NO. | F     | INS. CLASS | Y     | CONNECTION |

| TEST DATA | NO LOAD    | 25% LOAD | 50% LOAD | 75% LOAD | 100% LOAD | 125% LOAD | LOCKED ROTOR |
|-----------|------------|----------|----------|----------|-----------|-----------|--------------|
|           | EFFICIENCY | 0        | 37.3     | 53.5     | 60.9      | 63.4      | 63.0         |
| PF        | 0.169      | 0.280    | 0.393    | 0.499    | 0.590     | 0.666     | 0.656        |
| RPM       | 750        | 739      | 725      | 710      | 691       | 667       | 0            |
| SLIP      | 0.00%      | 1.47%    | 3.33%    | 5.33%    | 7.87%     | 11.07%    | 100.00%      |
| AMPS      | 1.87       | 1.87     | 1.89     | 1.96     | 2.12      | 2.38      | 7.16         |
| VOLTS     | 400        | 400      | 400      | 400      | 400       | 400       | 400          |
| TORQUE NM | 0          | 1.75     | 3.63     | 5.54     | 7.59      | 9.91      | 17.80        |
| KW INPUT  | 0.219      | 0.3631   | 0.5146   | 0.6772   | 0.8664    | 1.098     | 3.253        |
| KW OUTPUT | 0          | 0.135    | 0.275    | 0.412    | 0.550     | 0.692     |              |

| LOSSES (kW)         | 25% LOAD | 50% LOAD | 75% LOAD | 100% LOAD | 125% LOAD |
|---------------------|----------|----------|----------|-----------|-----------|
| STATOR LOSS Pcu1    | 0.144    | 0.147    | 0.158    | 0.185     | 0.233     |
| STATOR LOSS %       | 39.58%   | 28.53%   | 23.32%   | 21.32%    | 7.16%     |
| ROTOR LOSS Pcu2     | 0.002    | 0.010    | 0.024    | 0.048     | 0.088     |
| ROTOR LOSS %        | 0.59%    | 1.90%    | 3.51%    | 5.52%     | 2.69%     |
| CORE LOSS Pfe       | 0.074    | 0.074    | 0.074    | 0.074     | 0.074     |
| CORE LOSS %         | 20.38%   | 14.38%   | 10.93%   | 8.54%     | 2.27%     |
| WINDGE/FRICTION Pfw | 0.006    | 0.006    | 0.006    | 0.006     | 0.006     |
| WINDGE/FRICTION %   | 1.65%    | 1.17%    | 0.89%    | 0.69%     | 0.18%     |
| STRAY LOAD LOSS Ps  | 0.002    | 0.003    | 0.003    | 0.004     | 0.005     |
| STRAY LOAD LOSS %   | 0.50%    | 0.50%    | 0.50%    | 0.50%     | 0.50%     |

Losses are measured/calculated as per IEC 34-2-The Summation of Losses Method  
 All data is measured at Nominal Volts

### TEMPERATURES

|                                      |                |                                      |        |                      |
|--------------------------------------|----------------|--------------------------------------|--------|----------------------|
| STATOR RESISTANCE COLD               | 22.54 OHMS @   | 20.0                                 | DEG.C. | BETWEEN STATOR LEADS |
| STATOR RESISTANCE ADJUSTED           | 27.4016 OHMS @ | 75                                   | DEG.C. | BETWEEN STATOR LEADS |
| STATOR RESISTANCE HOT                | 26.66 OHMS     | after test of temp rise              |        | BETWEEN STATOR LEADS |
| WINDING TEMPERATURE RISE             | 47.6 DEG.C.    | at full load steady state at         |        | 30 SECS              |
| WINDING TEMPERATURE RISE             | DEG.C.         | at full load steady state at         |        | 0 SECS               |
| PT100 TEMPERATURE OF DE WINDING      | DEG.C.         | at full load steady state at ambient |        | DEG.C.               |
| PT100 TEMPERATURE OF NDE WINDING     | DEG.C.         | at full load steady state at ambient |        | DEG.C.               |
| PT100 TEMPERATURE OF DE BEARING      | 68.0 DEG.C.    | at full load steady state at ambient |        | 19.0 DEG.C.          |
| PT100 TEMPERATURE OF NDE BEARING     | 68.0 DEG.C.    | at full load steady state at ambient |        | 19.0 DEG.C.          |
| PT100 TEMPERATURE OF IN TERMINAL BOX | DEG.C.         | at full load steady state at ambient |        | DEG.C.               |
| PT100 TEMPERATURE OF ON STATOR LEAD  | DEG.C.         | at full load steady state at ambient |        | DEG.C.               |

### OTHER

|                  |      |                   |                       |     |          |
|------------------|------|-------------------|-----------------------|-----|----------|
| NOISE LEVEL (Lp) | 40.6 | dB(A) 1meter      | INSULATION RESISTANCE | 500 | MEG.OHMS |
| VIBRATION LEVEL  | 0.9  | mm/sec on no load | D.E. BEARING          |     |          |
| WEIGHT           | 14   | kg                | N.D.E. BEARING        |     |          |
| H-POT TEST VOLTS | 1800 | VOLTS             |                       |     |          |

|                      |       |    |        |         |     |              |  |
|----------------------|-------|----|--------|---------|-----|--------------|--|
| <b>VALIADIS S.A.</b> |       |    |        | SCALE   | N/A |              |  |
|                      |       |    |        | DATE    |     | REV          |  |
| AK90L - 8            |       |    |        | DRAWN   |     | DOCUMENT NO. |  |
| 0.55                 | kW    |    | APPRVD |         |     |              |  |
| 400                  | VOLTS | 50 | Hz     | CHECKED |     |              |  |

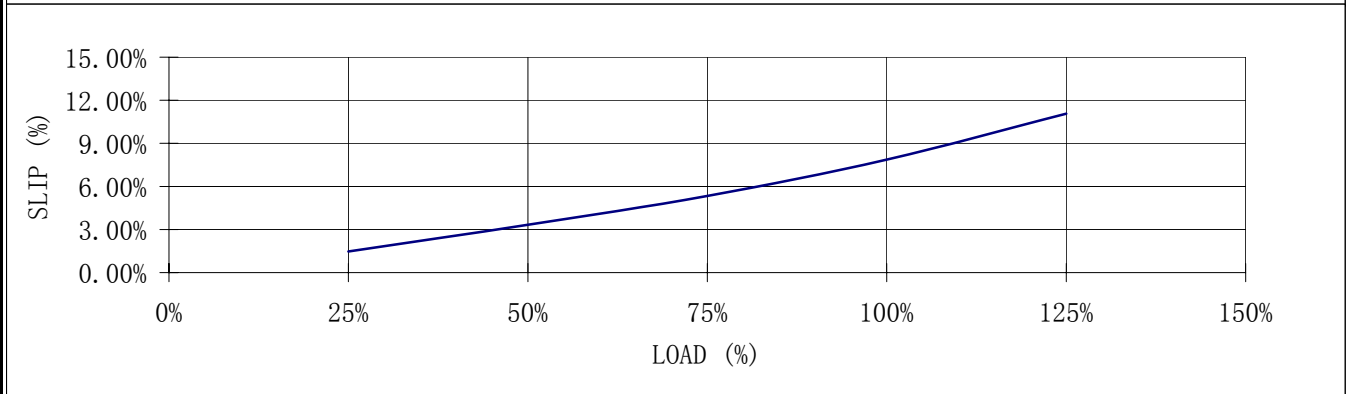
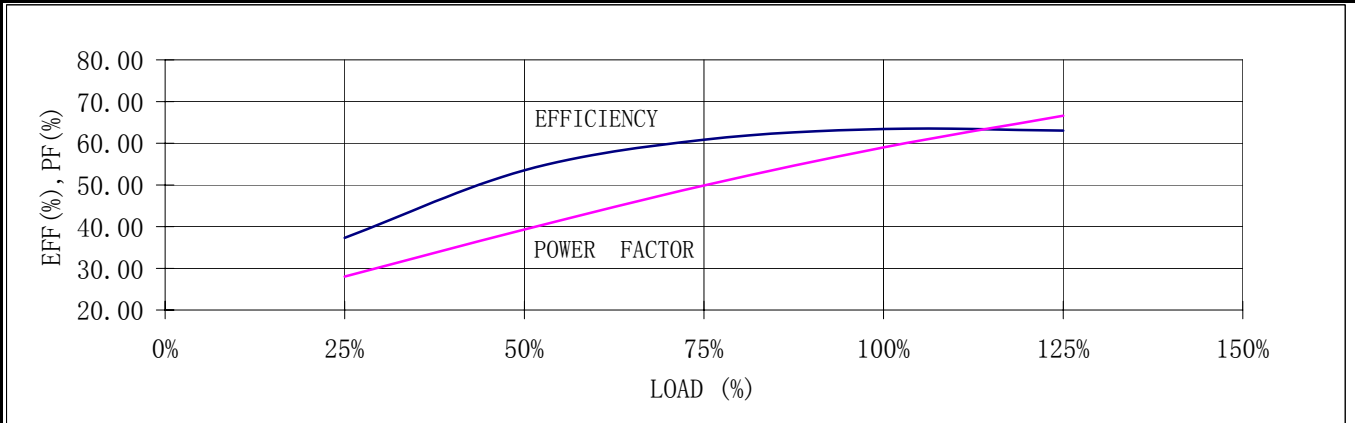
RESULT SUMMARY

# VALIADIS S.A.

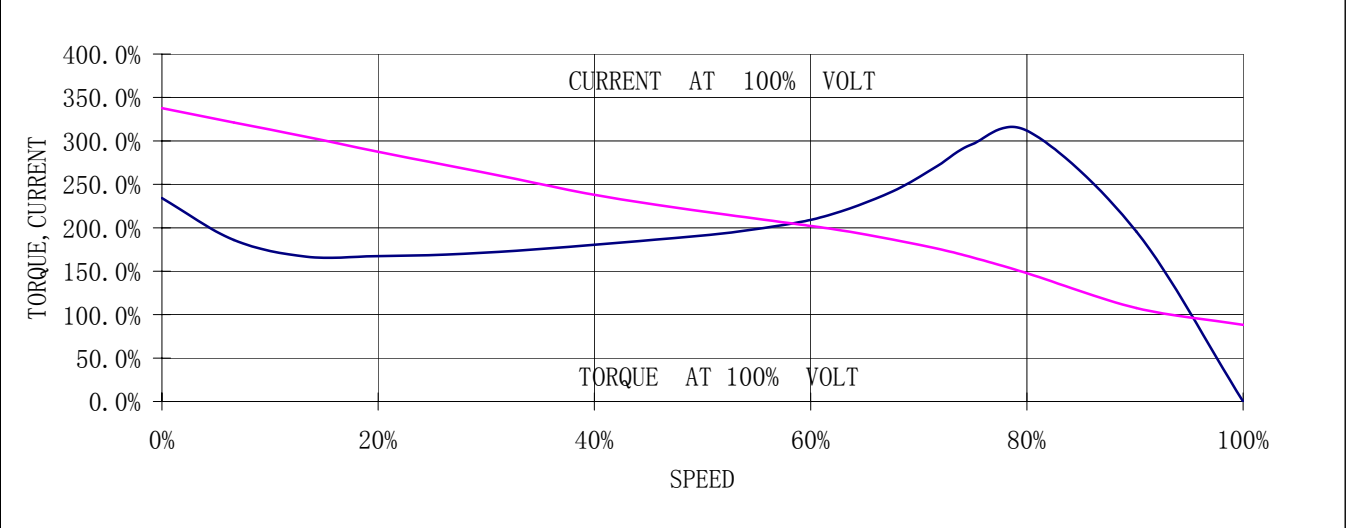
## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

|                       |                     |                   |              |                   |              |                   |
|-----------------------|---------------------|-------------------|--------------|-------------------|--------------|-------------------|
| <b>NAMEPLATE DATA</b> | IEC                 | <b>TYPE</b>       | 0.55         | <b>KW</b>         | 690          | <b>RPM</b>        |
| AK90L - 8             | <b>FRAME</b>        | 3                 | <b>PHASE</b> | 400               | <b>VOLTS</b> | 50                |
| 63.5                  | <b>EFFICIENCY</b>   | 2.12              | <b>AMPS</b>  | 55                | <b>IP</b>    | IC01              |
| 8                     | <b>POLE</b>         | S1                | <b>DUTY</b>  | 0.59              | <b>PF</b>    | N/A               |
| VALIADIS              | <b>MANUFACTURER</b> | <b>SERIAL NO.</b> | F            | <b>INS. CLASS</b> | Y            | <b>CONNECTION</b> |

### LOAD TEST



### SPEED VS TORQUE, CURRENT



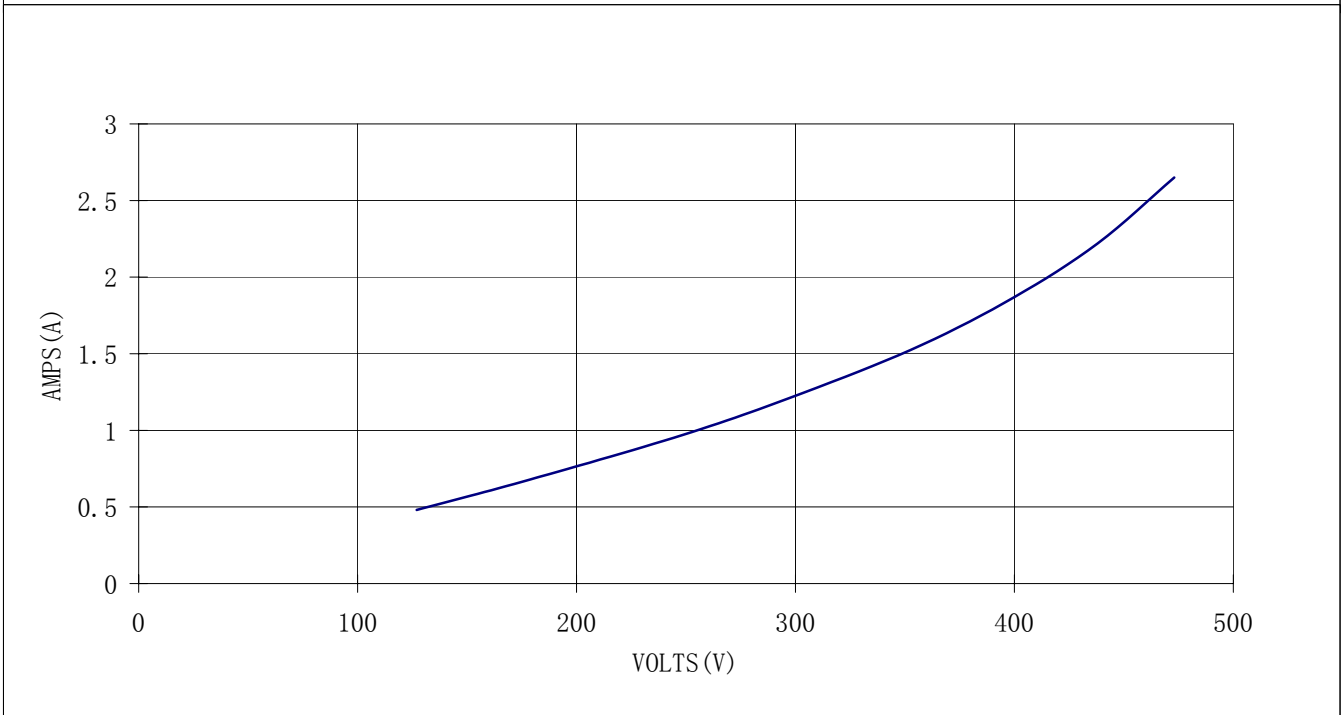
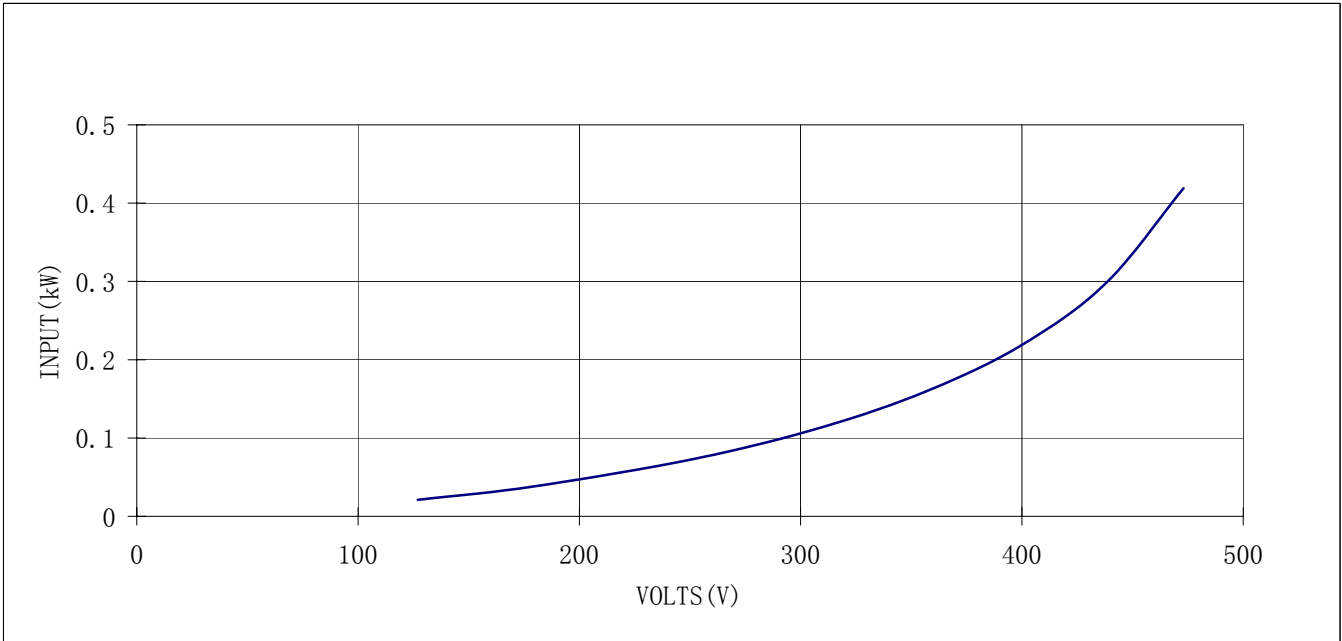
|   |  |  |  |                |     |                     |
|---|--|--|--|----------------|-----|---------------------|
| <b>VALIADIS S.A.</b>                    |  |  |  | <b>SCALE</b>   | N/A |                     |
|   |  |  |  | <b>DATE</b>    |     | <b>REV</b>          |
| AK90L - 8<br>0.55 kW<br>400 VOLTS 50 Hz |  |  |  | <b>DRAWN</b>   |     | <b>DOCUMENT NO.</b> |
|   |  |  |  | <b>APPRVD</b>  |     |                     |
|   |  |  |  | <b>CHECKED</b> |     |                     |

**VALIADIS S.A.**

**ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR**

|                       |                     |                   |              |                   |              |                   |
|-----------------------|---------------------|-------------------|--------------|-------------------|--------------|-------------------|
| <b>NAMEPLATE DATA</b> | IEC                 | <b>TYPE</b>       | 0.55         | <b>KW</b>         | 690          | <b>RPM</b>        |
| AK90L - 8             | <b>FRAME</b>        | 3                 | <b>PHASE</b> | 400               | <b>VOLTS</b> | 50                |
| 63.5                  | <b>EFFICIENCY</b>   | 2.12              | <b>AMPS</b>  | 55                | <b>IP</b>    | IC01              |
| 8                     | <b>POLE</b>         | S1                | <b>DUTY</b>  | 0.59              | <b>PF</b>    | N/A               |
| VALIADIS              | <b>MANUFACTURER</b> | <b>SERIAL NO.</b> | F            | <b>INS. CLASS</b> | Y            | <b>CONNECTION</b> |

**NO LOAD TEST**



|            |                      |           |           |                |            |                     |
|------------|----------------------|-----------|-----------|----------------|------------|---------------------|
|            | <b>VALIADIS S.A.</b> |           |           | <b>SCALE</b>   | <b>N/A</b> |                     |
|            |                      |           |           | <b>DATE</b>    |            | <b>REV</b>          |
|            | <b>AK90L - 8</b>     |           |           | <b>DRAWN</b>   |            | <b>DOCUMENT NO.</b> |
|            | <b>0.55</b>          | <b>kW</b> |           | <b>APPRVD</b>  |            |                     |
| <b>400</b> | <b>VOLTS</b>         | <b>50</b> | <b>Hz</b> | <b>CHECKED</b> |            |                     |

CURVE