

## Nautilair 150642-01

**MECHANICAL**

**DIAMETER:** 12.3" (312mm)  
**DISCHARGE TYPE:** Tangential  
**DISCHARGE:** Large Square Outlet Flange  
**APPROXIMATE WEIGHT:** 28lbs/12.7kg

**PERFORMANCE**

**FLOW CLASSIFICATION:** High Energy  
**STAGES:** 1 Stage

**TEMPERATURE**

**OPERATING TEMP:** 0°C to 50°C  
**STORAGE TEMP:** -40°C to 85°C

**ELECTRICAL**

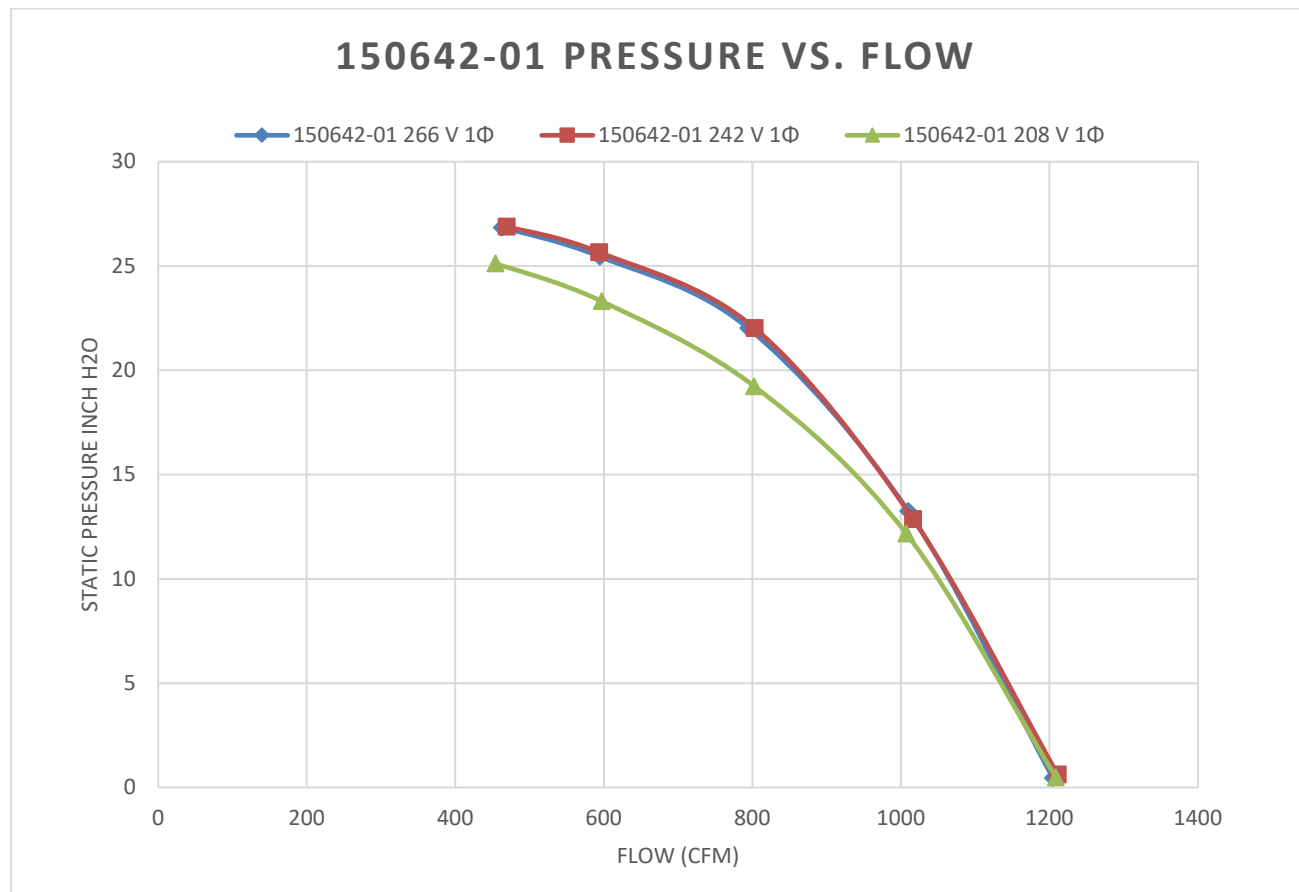
**INPUT VOLTAGE RANGE:** 208-264VAC  
**INPUT VOLTAGE:** 240VAC, 1  $\Phi$

**OPTIONAL FEATURES**

**SPEED CONTROL:** PWM, Pull Up, Open Loop  
**OTHER:** 3-Pin Power Port; 5-Pin Control Port

**REGULATORY CERTIFICATIONS**

**COMPLIANCE:** RoHS and Reach compliant  
**UL FILE NUMBER:** E94403  
**AGENCY FULL LOAD AMPS:** 30A



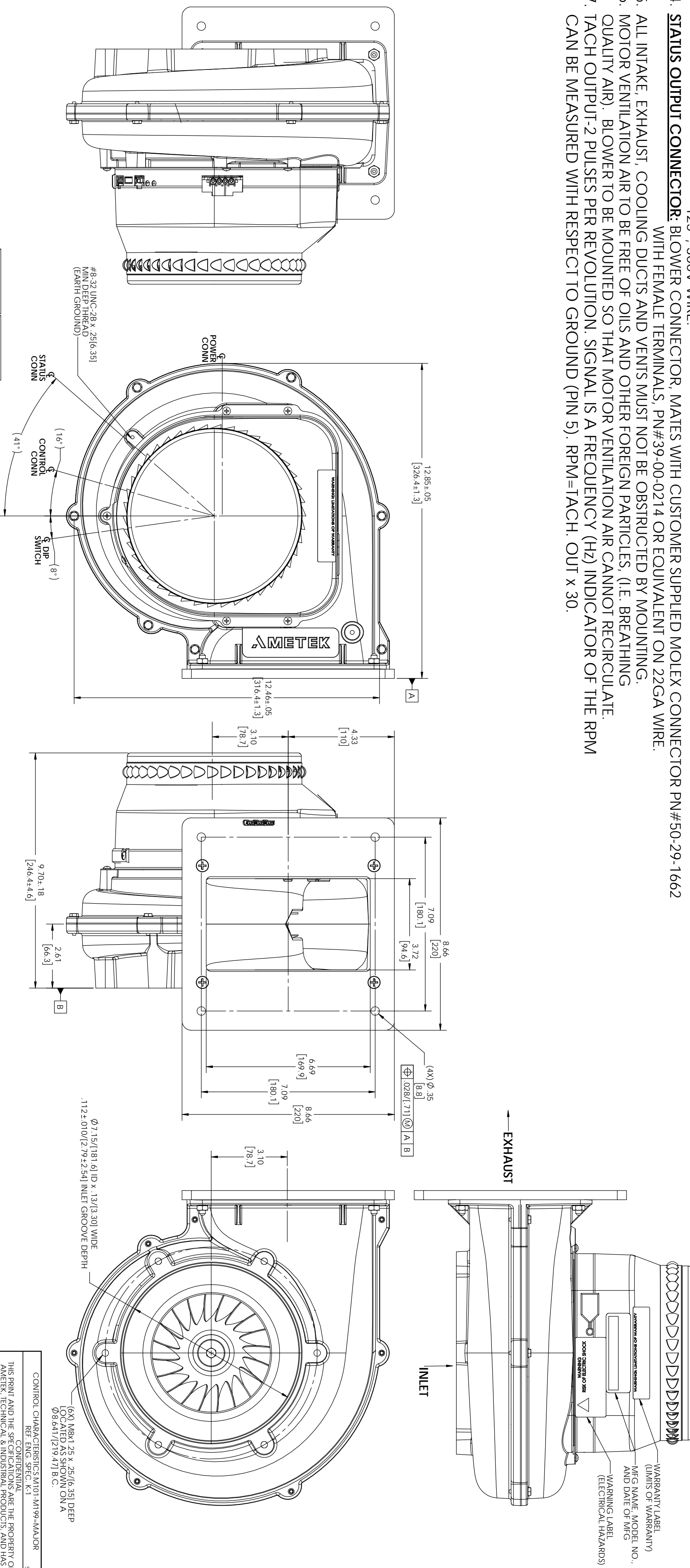
**DESIGN APPLICATION:** Designed to provide variable airflow for low NO<sub>x</sub> and CO emission in high efficiency gas fired combustion systems. Built with non-sparking materials. Blower housing assembly constructed of die cast aluminum. Impeller constructed from hardened aluminum. Rubber isolation mounts built into blower construction to dampen vibration within the motor. Two-piece blower housing assembly sealed, and factory leak checked. Customer is responsible to check for any leakage once the blower is installed into the final application.

**MISCELLANEOUS:** Motor cooling inlet and discharge vents must not be obstructed. Motor ventilation air to be free of oils and other foreign particles. Blower is to be mounted so ventilation air cannot be re-circulated.

| <b>Flow Rate</b><br><i>cfm</i> | <b>Static Pressure</b><br><i>inch H2O</i> | <b>Total Pressure</b><br><i>inch H2O</i> | <b>Current</b><br><i>A</i> | <b>Power Demand</b><br><i>W</i> | <b>Voltage</b><br><i>V</i> | <b>Flow Temperature</b><br><i>°C</i> | <b>Rotational Speed</b><br><i>rpm</i> | <b>Static Efficiency</b><br><i>%</i> | <b>Total Efficiency</b><br><i>%</i> |
|--------------------------------|---|--|----------------------------|---------------------------------|----------------------------|--------------------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| 1204.46                        | 0.46                                      | 1.20                                     | 20.72                      | 3567.04                         | 265.59                     | 26.43                                | 7410                                  | 1.86                                 | 4.84                                |
| 1009.99                        | 13.25                                     | 13.77                                    | 22.43                      | 3896.32                         | 265.12                     | 27.84                                | 8310                                  | 41.06                                | 42.67                               |
| 794.32                         | 22.02                                     | 22.35                                    | 22.26                      | 3862.41                         | 265.35                     | 29.01                                | 9150                                  | 54.32                                | 55.11                               |
| 594.60                         | 25.45                                     | 25.63                                    | 20.01                      | 3405.18                         | 265.88                     | 29.80                                | 9540                                  | 53.40                                | 53.78                               |
| 462.73                         | 26.84                                     | 26.95                                    | 18.59                      | 3123.06                         | 266.37                     | 30.33                                | 9810                                  | 47.87                                | 48.06                               |
| 1210.96                        | 0.63                                      | 1.38                                     | 23.06                      | 3655.22                         | 241.99                     | 26.45                                | 7470                                  | 2.50                                 | 5.46                                |
| 1016.45                        | 12.86                                     | 13.39                                    | 24.64                      | 3919.21                         | 241.59                     | 27.70                                | 8310                                  | 39.88                                | 41.52                               |
| 803.00                         | 22.03                                     | 22.36                                    | 24.54                      | 3895.48                         | 241.23                     | 28.89                                | 9150                                  | 54.44                                | 55.25                               |
| 593.56                         | 25.66                                     | 25.84                                    | 21.90                      | 3416.68                         | 241.61                     | 29.71                                | 9570                                  | 53.56                                | 53.93                               |
| 469.28                         | 26.89                                     | 27.00                                    | 20.40                      | 3140.94                         | 241.91                     | 30.23                                | 9810                                  | 48.32                                | 48.53                               |
| 1208.69                        | 0.49                                      | 1.24                                     | 25.68                      | 3638.22                         | 208.21                     | 26.46                                | 7440                                  | 1.94                                 | 4.89                                |
| 1007.27                        | 12.17                                     | 12.69                                    | 26.39                      | 3749.51                         | 208.03                     | 27.44                                | 8190                                  | 39.06                                | 40.72                               |
| 802.36                         | 19.24                                     | 19.57                                    | 24.36                      | 3422.68                         | 208.63                     | 28.15                                | 8640                                  | 53.97                                | 54.89                               |
| 596.97                         | 23.31                                     | 23.50                                    | 22.05                      | 3060.33                         | 209.36                     | 28.91                                | 9120                                  | 54.52                                | 54.95                               |
| 454.12                         | 25.12                                     | 25.23                                    | 20.50                      | 2804.25                         | 209.89                     | 29.53                                | 9480                                  | 48.85                                | 49.05                               |

| REV | ECN NO.  | REVISIONS                                      | DATE     | APP'D |
|-----|----------|--|----------|-------|
| A   | DMR #290 | CHANGE TO RELEASE TO PRODUCTION                | 9-14-17  | KD    |
| B   | DE #797  | RELEASE TO PRODUCTION                          | 10-24-17 | MH    |
| C   | DE #1350 | (6X) TAG HEAD MOUNTS X.25 DEEP MTS. 48 DEEP.   | 8-23-18  | MH    |
| D   | DE #1572 | UPDATE CONNECTOR CALLOUT DETAIL PICTORAILY. MH | 12-28-18 | MH    |

- NOTES:
1. ROHS AND REACH COMPLIANCE. REFERENCE AMETEK ENVIRONMENTAL SPECIFICATION ES0010 FOR DETAILS.
  2. **POWER CONNECTION:** BLOWER CONNECTOR, MATES WITH CUSTOMER SUPPLIED MOLEX CONNECTOR PN# 172672-2004 WITH FEMALE TERMINALS. PN#171825 OR EQUIVALENT ON 12GA WIRE.
  3. **CONTROL CONNECTION:** BLOWER CONNECTOR, MATES WITH CUSTOMER SUPPLIED MOLEX SERIES 5557 CONNECTOR HOUSING, (PN#39-01-4051) WITH FEMALE TERMINALS, (PN#39-00-0208) OR EQUIVALENT ON 22GA, 125°, 300V WIRE.
  4. **STATUS OUTPUT CONNECTOR:** BLOWER CONNECTOR, MATES WITH CUSTOMER SUPPLIED MOLEX CONNECTOR PN#50-29-1662 WITH FEMALE TERMINALS. PN#39-00-0214 OR EQUIVALENT ON 22GA WIRE.
  5. ALL INTAKE, EXHAUST, COOLING DUCTS AND VENTS MUST NOT BE OBSTRUCTED BY MOUNTING.
  6. MOTOR VENTILATION AIR TO BE FREE OF OILS AND OTHER FOREIGN PARTICLES, (I.E. BREATHING QUALITY AIR). BLOWER TO BE MOUNTED SO THAT MOTOR VENTILATION AIR CANNOT RECIRCULATE.
  7. TACH OUTPUT-2 PULSES PER REVOLUTION. SIGNAL IS A FREQUENCY (HZ) INDICATOR OF THE RPM CAN BE MEASURED WITH RESPECT TO GROUND (PIN 5). RPM=TACH. OUT x 30.



8500-02-00  
PWM PULLED UP

| POWER CONNECTION |                     |       |  |
|------------------|---------------------|-------|--|
| PIN #            | CONTROL DESCRIPTION | COLOR |  |
| 1                | GROUND              | GREEN |  |
| 2                | A/C INPUT           | WHITE |  |
| 3                | A/C INPUT           | WHITE |  |
| 4                | A/C INPUT           | BLACK |  |

| CONTROL CONNECTION |                          |        |  |
|--------------------|--------------------------|--------|--|
| PIN #              | CONTROL DESCRIPTION      | COLOR  |  |
| 1                  | INPUT 15V-40V (OPTIONAL) | RED    |  |
| 2                  | TACH-OUTPUT              | WHITE  |  |
| 3                  | NOT USED                 | YELLOW |  |
| 4                  | PWM (15-30V)/(1-20KHZ)   | GREEN  |  |
| 5                  | INPUT COMMON             | BLACK  |  |

| STATUS OUTPUT CONNECTION |                     |                 |       |
|--------------------------|---------------------|-----------------|-------|
| PIN #                    | CONTROL DESCRIPTION | COLOR           |       |
| 1                        | OUTPUT              | ISOLATED -15VDC | RED   |
| 2                        | OUTPUT              | OPEN COLLECTOR  | BLUE  |
| 3                        | OUTPUT              | ISOLATED COMMON | BLACK |

CONTROL CHARACTERISTICS: M101-M199-A/AJOR  
REF. ENG. SPEC. K.1

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DO NOT SCALE DRAWING.

| UNLESS OTHERWISE SPECIFIED  | TOLERANCES     |
|-----------------------------|----------------|
| REMOVE BURRS                | XX XXX ANGLES  |
| BREAK SHARP EDGES 0.05/0.20 | ±02 005 ±0°30' |

| SCALE | CODR  | TRNSP/SPC |
|-------|-------|-----------|
| 1:2   | 75511 |           |

| DATE    | BY       | CHKD     | DATE |
|---------|----------|----------|------|
| 9-13-17 | K.D.H.L. | J.P.P.S. |      |

DATE: 9-13-17  
DRAWN BY: K.D.H.L.  
CHKD BY: J.P.P.S.

12.3 HIGH ENERGY MAGNETI 240V 1PH BLOWER OUTLINE

REV. E-53223  
SHEET 1 OF 1

AMETEK TECHNICAL & INDUSTRIAL PRODUCTS  
150642-01-0