

**OPTUM® 250 CVX**  
**OPTUM® 270 CVX**  
**OPTUM® 300 CVX**  
**Tractor - Tier 4B (final)**

*PIN DBDOP\*\*\*\*JE850001 and above*

*PIN HACOP\*\*\*\*JE801001 and above*

**OPERATOR'S MANUAL**

**Part number 51533464**

3<sup>rd</sup> edition English

October 2018

*Replaces part number 48198695*



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## EVERY 10 HOURS OR EACH DAY

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## EVERY 1200 HOURS OR ANNUALLY

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## EVERY 3600 HOURS OR EVERY 2 YEARS

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## EVERY 3600 HOURS OR EVERY 4 YEARS

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# 1 - GENERAL INFORMATION

## Metric and imperial units abbreviations

| Typical applications                | Metric unit            |        | Imperial unit         |                    |
|-------------------------------------|------------------------|--------|-----------------------|--------------------|
|                                     | Name                   | Symbol | Name                  | Symbol             |
|                                     |                        |        |                       |                    |
| Area (Land area)                    |                        |        |                       |                    |
|                                     | hectare                | ha     | acre                  | ac                 |
|                                     | square meter           | m²     | square foot           | ft²                |
|                                     |                        |        | square inch           | in²                |
|                                     | square millimeter      | mm²    | square inch           | in²                |
| Electricity                         |                        |        |                       |                    |
|                                     | ampere                 | A      | ampere                | A                  |
|                                     | volt                   | V      | volt                  | V                  |
|                                     | microfarad             | µF     | microfarad            | µF                 |
|                                     | ohm                    | Ω      | ohm                   | Ω                  |
| Force                               |                        |        |                       |                    |
|                                     | kilonewton             | kN     | pound                 | lb                 |
|                                     | newton                 | N      | pound                 | lb                 |
| Force per length                    |                        |        |                       |                    |
|                                     | newton per meter       | N/m    | pound per foot        | lb/ft              |
|                                     |                        |        | pound per inch        | lb/in              |
| Frequency                           |                        |        |                       |                    |
|                                     | megahertz              | MHz    | megahertz             | MHz                |
|                                     | kilohertz              | kHz    | kilohertz             | kHz                |
|                                     | hertz                  | Hz     | hertz                 | Hz                 |
| Frequency – Rotational              |                        |        |                       |                    |
|                                     | revolution per minute  | r/min  | revolution per minute | r/min <sup>a</sup> |
|                                     |                        | rpm    |                       | rpm                |
| Length                              |                        |        |                       |                    |
|                                     | kilometer              | km     | mile                  | mi                 |
|                                     | meter                  | m      | foot                  | ft                 |
|                                     | centimeter             | cm     | inch                  | in                 |
|                                     | millimeter             | mm     | inch                  | in                 |
|                                     | micrometer             | µm     |                       |                    |
| Mass                                |                        |        |                       |                    |
|                                     | kilogram               | kg     | pound                 | lb                 |
|                                     | gram                   | g      | ounce                 | oz                 |
|                                     | milligram              | mg     |                       |                    |
| Mass per mass                       |                        |        |                       |                    |
|                                     | milligram per kilogram | mg/ kg | parts per million     | ppm                |
| Power                               |                        |        |                       |                    |
|                                     | kilowatt               | kW     | horsepower            | Hp                 |
|                                     | watt                   | W      | Btu per hour          | Btu/hr             |
|                                     |                        |        | Btu per minute        | Btu/min            |
| Pressure or stress (Force per area) |                        |        |                       |                    |
|                                     | kilopascal             | kPa    | pound per square inch | psi                |
|                                     |                        |        | inch of mercury       | inHg               |
|                                     | pascal                 | Pa     | inch of water         | inH2O              |
|                                     | megapascal             | MPa    | pound per square inch | psi                |
|                                     | millibar               | mbar   |                       |                    |
|                                     | bar                    | bar    |                       |                    |

## 1 - GENERAL INFORMATION

| Typical applications                                                      | Metric unit            |                     | Imperial unit         |                      |
|---------------------------------------------------------------------------|------------------------|---------------------|-----------------------|----------------------|
|                                                                           | Name                   | Symbol              | Name                  | Symbol               |
| Temperature (other than thermodynamic)                                    |                        |                     |                       |                      |
|                                                                           | degrees Celsius        | °C                  | degrees Fahrenheit    | °F                   |
| Time                                                                      |                        |                     |                       |                      |
|                                                                           | hour                   | h                   | hour                  | h                    |
|                                                                           | minute                 | min                 | minute                | min                  |
|                                                                           | second                 | s                   | second                | s                    |
| Torque (includes bending moment, moment of force, and moment of a couple) |                        |                     |                       |                      |
|                                                                           | newton meter           | N m                 | pound foot            | lb ft                |
|                                                                           |                        |                     | pound foot            | lb in                |
| Velocity                                                                  |                        |                     |                       |                      |
|                                                                           | kilometer per hour     | km/h                | mile per hour         | mph                  |
|                                                                           | meter per second       | m/s                 | foot per second       | ft/s                 |
|                                                                           | millimeter per second  | mm/s                | inch per second       | in/s                 |
|                                                                           | meter per minute       | m/min               | foot per minute       | ft/min               |
| Volume (includes capacity)                                                |                        |                     |                       |                      |
|                                                                           | cubic meter            | m <sup>3</sup>      | cubic yard            | yd <sup>3</sup>      |
|                                                                           |                        |                     |                       | cu yd                |
|                                                                           | liter                  | l                   | cubic inch            | in <sup>3</sup>      |
|                                                                           | liter                  | l                   | US gallon             | US gal               |
|                                                                           |                        |                     | UK gallon             | UK gal               |
|                                                                           |                        |                     | US quart              | US qt                |
|                                                                           |                        |                     | UK quart              | UK qt                |
|                                                                           | milliliter             | ml                  | fluid ounce           | fl oz                |
| Volume per time (includes discharge and flow rate)                        |                        |                     |                       |                      |
|                                                                           | cubic meter per minute | m <sup>3</sup> /min | cubic foot per minute | ft <sup>3</sup> /min |
|                                                                           | liter per minute       | l/min               | US gallon per minute  | US gal/min           |
|                                                                           | milliliter per minute  | ml/min              | UK gallon per minute  | UK gal/min           |
| Sound power level and sound pressure level                                |                        |                     |                       |                      |
|                                                                           | decibel                | dB                  | decibel               | dB                   |
| Water hardness                                                            |                        |                     |                       |                      |
|                                                                           | German hardness        | °dH                 | English hardness      | °e                   |
|                                                                           | French hardness        | °fH                 | parts per million     | ppm                  |

## Glossary

| Acronym | Definition                                     |
|---------|------------------------------------------------|
| DEF     | Diesel Exhaust Fluid                           |
| ISO     | International Organization for Standardization |
| MSDS    | Material Safety Data Sheet                     |
| NOx     | Nitrogen Oxide                                 |
| PPE     | Personal Protective Equipment                  |
| SCR     | Selective Catalytic Reduction                  |
| ULSD    | Ultra Low Sulfur Diesel                        |
| %       | Percent                                        |
| <       | Less than                                      |
| >       | Greater than                                   |



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