



SPARK DIRECT READING SPECTROMETER (BASIC TYPE) PART No. OES-T350-U



printer (included)



filter element (included)



AC voltage regulator
(included)



calibration sample
(included)



electrode brush (included)



pressure valve (included)



spectral sample grinder
(optional)



argon purifier
(optional)

- Widely used in metallurgy, casting, scientific research, commodity inspection, automobile, shipbuilding, aviation, nuclear power, etc.
- Ability to analyze trace elements such as carbon (C), phosphorus (P), sulfur (S), etc.
- The analysis speed is fast, and the element composition of all channels is measured within 20 seconds
- Paschen-Runge structure with full wavelength coverage, the most concise and stable optical system structure
- Perfect aberration correction, so that the spectrometer has excellent resolution, minimize the cross interference of different elements
- Argon-filled optical chamber, effectively reducing the attenuation of P and S rays in the far ultraviolet region
- The software has automatic spectrum correction technology, can store database, trace historical data, output and print reports
- Report format can be customized, data can be sent out

STANDARD DELIVERY

| | |
|-------------------------------|-------|
| Main unit | 1 pc |
| Computer | 1 pc |
| Software | 1 pc |
| Printer | 1 pc |
| Calibration sample | 1 pc |
| Electrode brush (OES-T350-BR) | 2 pcs |
| Filter element | 2 pcs |
| AC voltage regulator | 1 pc |
| Pressure valve | 1 pc |

OPTIONAL ACCESSORY

| | | |
|--------------------------|-------------------|---|
| Spectral standard sample | MSS series | select standard sample based on the test material |
| Spectral sample grinder | OES-MY100-U | 13.78"DIA, 480V |
| Argon purifier | OES-T350-PURIFIER | 110V |

SPECIFICATION

| | | |
|-----------------------|----------------------------|---|
| Curves | Standard curve | low alloy steel (A1), cast iron (A2), plain stainless steel (A3) |
| | Customized curve | curves can be added or customized for special base materials (Ti, Pb, Sn, Co, etc.) |
| Optical system | Optical structure | paschen-runge structure |
| | Rowland circle of diameter | 350mm |
| | Wavelength range | 160~510nm |
| | Detector | multi high resolution CCD detectors |
| | Pixel resolution | 20pm |
| | Full spectrum | cover the full range of element analysis |
| | Light room temperature | 83.3±1.8°F (be controlled automatically) |
| Spark source | Type | digital arc and spark source/ new plasma generator |
| | Spark frequency | 100~1000Hz |
| | Plasma current | 1~80A |
| | Ignition voltage | >7000V |
| Spark stand | | spray discharge electrode technology reduces argon consumption and improves argon use efficiency |
| | | good heat dissipation, continuous excitation for 100 times, the temperature of the excitation table does not rise more than 5°C |
| Operating temperature | | 50~86°F, 73.4±1.8°F is recommended |
| Argon quality | | 99.999% high purity argon, argon pressure≥4MPa |
| Argon consumption | | 5L/min during spark mode |
| Operating humidity | | 20%~80%RH |
| Power supply | | AC110V, 60Hz |
| Power consumption | | excitation: 300W, stand by: 40W |
| Dimension (LxWxH) | | 27.64x26.17x13.51" |
| Weight | | 70.3lb |

IRON BASE CURVES

| Curve number | A1 | A2 | A3 | A4 | A5 | A6 | A7 |
|-----------------------|-----------------|-------------|------------------|---------------|--------------------|-----------------------|--------------------|
| Elemental content (%) | Low alloy steel | Cast iron* | stainless steels | High Mn steel | High Cr cast iron* | High speed tool steel | High Ni cast iron* |
| C | .006-1.19 | 1.75-4.04 | .0035-1.0 | .0085-2.38 | 1.16-3.43 | .003-2.94 | 1.75-4.04 |
| Si | .013-3.86 | .2-3.88 | .095-2.41 | .091-1.69 | .055-2.48 | .014-.967 | .2-3.88 |
| Mn | .034-2.2 | .08-1.67 | .131-16.13 | 5.3-22.96 | .201-1.95 | .018-.846 | .08-6.72 |
| P | .0019-0.13 | .021-.699 | .0057-.065 | .0064-.188 | .024-.369 | .0038-.098 | .0067-.699 |
| S | .0009-.364 | .003-.22 | .0006-.095 | .0047-.108 | .0047-.123 | .0005-.076 | .003-.22 |
| Cr | .016-4.83 | .021-2.48 | 6.8-32.58 | .084-29.22 | 1.17-33.9 | .023-14.16 | .021-2.56 |
| Ni | .0082-4.4 | .013-1.89 | .09-32.3 | .045-15.34 | .129-2.57 | .07-0.436 | .013-21.26 |
| Mo | .004-4.19 | .0018-1.08 | .026-6.09 | .0095-3.15 | .086-3.53 | .022-8 | .0011-1.08 |
| Al | .0021-1.27 | .0073-.214 | .0057-.403 | .009-.403 | - | .032-.128 | .0073-.214 |
| Cu | .0032-0.8 | .018-1.83 | .014-4.22 | .025-1.9 | .154-1.57 | .018-.364 | .018-7.46 |
| Co | .004-.504 | .008-.034 | .0067-.69 | .007-.107 | - | .014-12.3 | .0063-.034 |
| Ti | .001-1.18 | .024-.51 | .002-2.11 | .0041-.545 | .08-.3 | .003-1.47 | .024-.51 |
| Nb | .004-1.04 | .023-.576 | .024-2.41 | .0006-.613 | .01-.686 | .003-2.33 | .0006-.576 |
| V | .0082-.9 | .014-.701 | .015-1.4 | .024-.837 | .059-1.01 | .01-7.54 | .0085-.701 |
| W | .005-2.07 | .023-.574 | .0065-2.2 | .002-1.45 | .015-1.99 | .01-18.68 | .0002-.574 |
| Pb | .003-.26 | .002-.105 | .0001-.0037 | .0005-.002 | - | - | .0022-.105 |
| Mg | - | .0006-.104 | - | - | - | - | .0006-.104 |
| B | .0003-.019 | .012-.086 | .0007-.016 | .0007-.017 | .015-.177 | - | .012-.086 |
| Sn | .0016-.039 | .0018-0.3 | .0007-.054 | .0007-.023 | - | .001-.005 | .0003-.3 |
| Zn | - | .0009-.0045 | .0011-.0084 | - | - | - | .0009-.0045 |
| As | .007-.174 | .0021-.035 | .0013-.03 | .0013-.0116 | - | - | .0021-.035 |
| Bi | .0019-.021 | - | .00004-.0029 | .0013-.0029 | - | - | - |
| Zr | .004-.57 | - | - | - | - | .003-.01 | - |
| Ca | .0004-.0015 | - | .0004-.0010 | .0004-.001 | - | - | .00035-.2 |
| Fe | REF | REF | REF | REF | REF | REF | REF |

*Cast iron samples need to be whitened samples

NICKEL BASE CURVES

| Curve number | D1 | D2 | D3 | D4 | D5 | D6 |
|-----------------------|-------------|---------------|-----------------|-------------|--------------|-------------|
| Elemental content (%) | Monel Alloy | Inconel Alloy | Hastelloy Alloy | GH30 Alloy | GH4169 Alloy | DZ125 Alloy |
| C | .0494-.13 | .01-.169 | .01-.169 | .137-.241 | - | .0322-.152 |
| Si | .146-2.52 | .036-.85 | .2-.85 | .311-.895 | - | .016-.042 |
| Mn | .993-1.437 | .05-1.19 | .249-1.19 | .156-.777 | - | .0022-.024 |
| P | .0106-.019 | .0004-.038 | .007-.038 | .001-.0152 | - | .0023-.0024 |
| S | .0006-.023 | .0002-.034 | .0086-.034 | .0034-.0145 | - | .0005-.0006 |
| Cr | .0057-.2 | 14.86-29.5 | 15.42-19.71 | 16.81-20.56 | 14.87-22.21 | 6.57-19.62 |
| Mo | .0024-.102 | .0025-20.91 | 15.59-20.91 | - | 2.29-4.03 | .63-4.32 |
| Fe | 1.053-2 | 1.2-18.51 | 2.6-7.3 | .229-1.780 | - | .022-1.023 |
| W | - | .0011-12.7 | .09-.498 | - | - | .041-8.8 |
| V | - | .005-.498 | .03-.72 | - | - | - |
| Al | .0231-1.399 | .03-.72 | .159-2.6 | .065-.267 | .14-.68 | 1.476-6.13 |
| Co | .032-.156 | .0056-2.6 | .046-.642 | - | 1.02-1.04 | .024-14.79 |
| Cu | 21.53-33 | .0072-.642 | - | .082-.245 | .0015-.002 | - |
| Nb | - | .0039-5.16 | - | - | 3.85-6.79 | .028-2.04 |
| Sn | - | - | - | - | - | - |
| Ta | - | - | - | - | - | 2.74-4.82 |
| Ti | .064-1.005 | .017-.93 | .06-.264 | - | .59-1.42 | .62-5.1 |
| B | - | .0001-.01 | - | - | - | .0062-.0242 |
| Mg | .0026-.0217 | .0021-.022 | - | - | - | - |
| Zr | - | .0018-.004 | - | - | - | .014-.06 |
| Pb | .0004-.02 | - | - | - | - | - |
| Ni | REF | REF | REF | REF | 43.89-60 | REF |

ZINC BASE CURVES

| Curve number | E1 | E2 |
|-----------------------|--------------|-------------|
| Elemental content (%) | Pure Zn | Zn-Al Alloy |
| Al | .00036-.007 | .00036-27.4 |
| Cd | .00044-.0132 | .00044-.3 |
| Cu | .00012-.004 | .00012-6.05 |
| Fe | .00012-.004 | .00053-.1 |
| Mg | - | .0014-.179 |
| Mn | - | .001-1.39 |
| Ni | - | .0019-.06 |
| Pb | .00045-.0152 | .00045-2.87 |
| Sb | - | .0012-.309 |
| Sn | .0004-.0033 | .0004-2.38 |
| Ti | - | .0008-.278 |
| Si | - | .0013-.0191 |
| Cr | - | .0007-.142 |
| Ag | - | - |
| Bi | - | .0027-.027 |
| Fe | REF | REF |

MAGNESIUM BASE CURVES

| Curve number | F1 | F2 |
|-----------------------|--------------|-------------------|
| Elemental content (%) | Pure Mg | Mg/Al/Mn/Zn Alloy |
| Al | .005-1.06 | 1.09-11.02 |
| Zn | .00044-.0132 | .0068-4.1 |
| Mn | .017-.148 | .02-.61 |
| Si | .012-.062 | .019-1.83 |
| Fe | .0069-.027 | .0012-.033 |
| Cu | .00097-.025 | .00072-.291 |
| Ni | .00026-.0052 | .00042-.02 |
| Be | - | .00011-.0029 |
| Ti | .0001-.0025 | - |
| Pb | .0011-.037 | - |
| Mg | REF | REF |