# PHD-50

## MOBILE IN-FURNACE ROTARY METAL TREATMENT SYSTEM

The Pyrotek PHD-50 is a mobile flux injection and degassing unit with a spinning rotor. The unit injects a metered amount of inert gas into molten aluminium through a rotating shaft and rotor. The graphite rotor shears the gas into tiny bubbles and disperses them evenly through the melt. The PHD-50 also injects flux below the metal line.

The PHD-50 has designed safety features to assist with accident-free operation, can be programmed with automatic and repeatable degassing cycles, and the unit's hoist can move the graphite shaft and rotor in and out of the melt.

The PHD-50 also contains an on-board computer that monitors the following parameters:

- Equipment status
- Number of current program steps
- Rotor revolutions
- Inert gas flow
- Flux feed flow
- Graphite shaft motor operation level
- Head turn angle

### BENEFITS

- Efficiently removes oxides, alkali metals, dross impurities and dissolved hydrogen from the melt
- Produces dry dross with very little metallic alumina
- Helps clean furnace walls
- Reduced furnace emissions
- Reduced flux usage

### PHYSICAL PROPERTIES–MOBILE CHASSIS

| Property | Value |
|---|---|
| Loading Capacity–kg (lb) | 1200(2646) |
| Weight–kg (lb) | 1800 (3968) |
| Primary Motor–kW | 1.5 |
| Battery–V/Ah | 24/270 |
| Speed–km/h (mph) | 5 (3.11) |
| Rotation Radius–mm (in) | 1730 (68.11) |
| Tilting Motor–kW | 3 |
| Front Rollers Diameter–mm (in) | 450 (17.72) |


### PHYSICAL PROPERTIES–PHD-50 UNIT

| Property | Value |
|---|---|
| Dimensions–mm (in) | 2700 x 1900 x 3200 (106.30 x 74.80 x 125.98) |
| Weight–kg (lb) | 2700 (5952) |
| Inert Gas | Argon or Nitrogen |
| Inert Gas Pressure–bar | 5.3 |
| Rotor Revolution–RPM | Minimum: 50<br>Maximum: 300 |
| Power Supply–V/Hz | 230-400/50 |
| Unit Charger–V/Hz | 230/50 |
| Graphite Shaft Motor–V/Hz | 400/50, 7.5 kW |
| Tilting Motor–V/Hz | 400/50, 0.75 kW |
| Flux Feed Motor–V/Hz | 230/50, 0.37 kW |

### PHYSICAL PROPERTIES–FLUX TANK AND FEEDER

| Property | Value |
|---|---|
| Power Supply–V/Hz | 230/50 |
| Power Input–kW | 3 |
| Flux Tank Capacity–$dm^3$ ($ft^3$) | 40 (1.41) |
| Gas Pressure–bar | 4 minimum |
| Flux Flow–kg/min (lb/min) | 0.5-2.0 [1.1 – 4.4] |



*Note: The physical and chemical properties listed represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice.*

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*Commodity Code: 16028*