

# becker

GLOBAL-AMERICA



Patent #8,648,274

## DURATRANS<sup>®</sup> Transformer

- Proven Harsh Environment Technology
- Coil Distortion Prevention (CDP)
- Corrugated Duct Technology
- OVAL Technology

BGA

## DURATRANS® Transformer

### Description

Traditional manufacturers use out of date winding techniques and technology for the most critical power delivering part of your equipment. Becker Global-America has developed cutting edge technology with it's latest patented innovation called **DURATRANS®**

*The DURATRANS® Transformer* invention is intended to address the challenges specific to dry-type applications. These challenges are met by producing a wound transformer coil which results in a mechanically robust construction preventing winding displacement and sealing out all environmental contaminants.

# The NEW Standard for America's Toughest Industries



### *What Makes DURATRANS® Unique?*

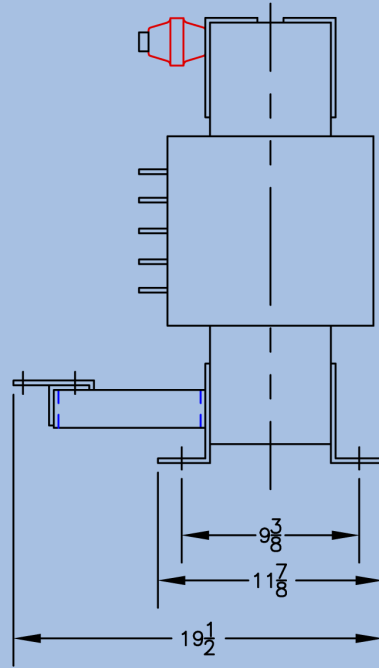
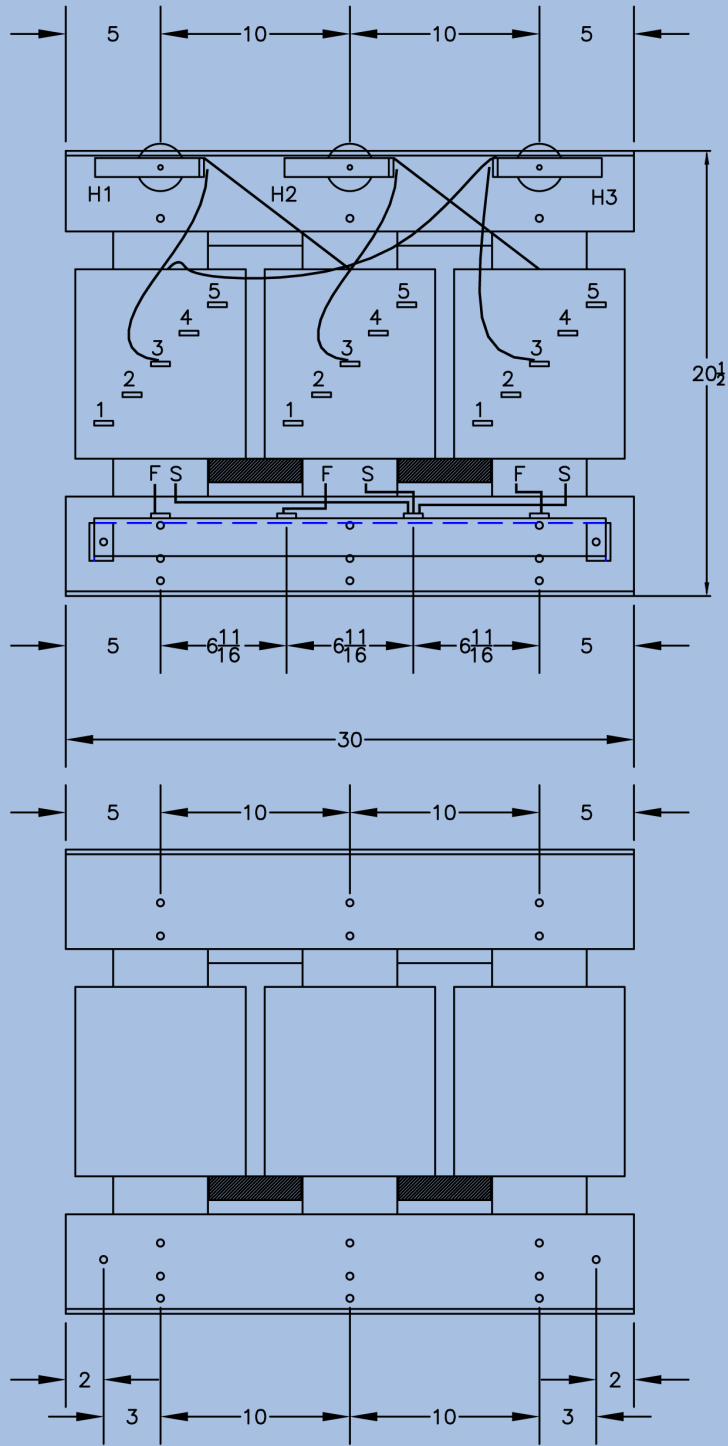
The technology utilized to produce the industry leading, patent pending, transformer design.

**Proven Harsh Environment (HET)** is a proprietary process which seals out contaminants and builds superior strength to the transformer.

**Coil Distortion Prevention (CDP)** technology prevents outward coil distortion via a specifically reinforced material on the outside layer.

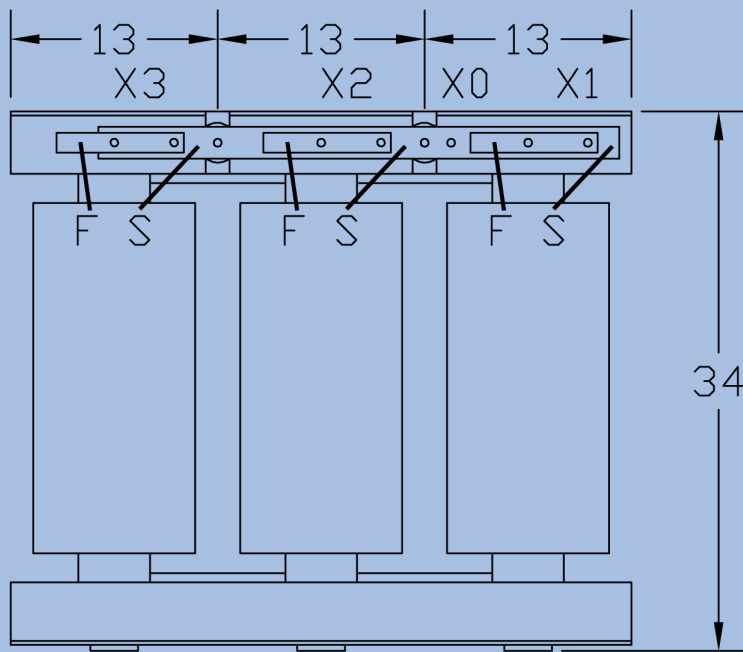
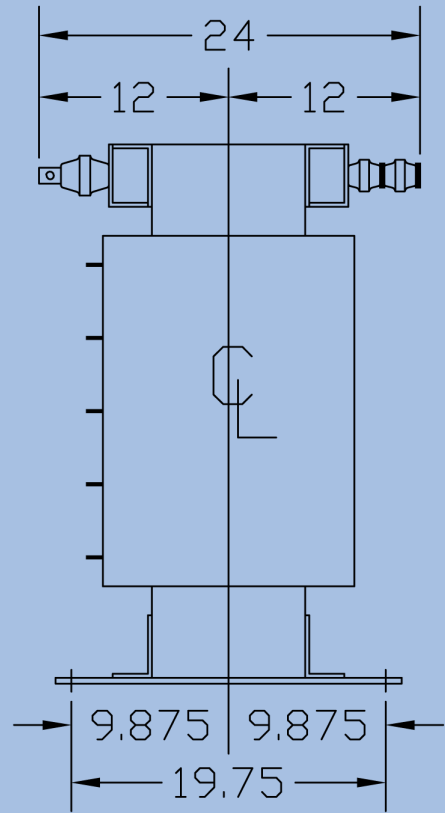
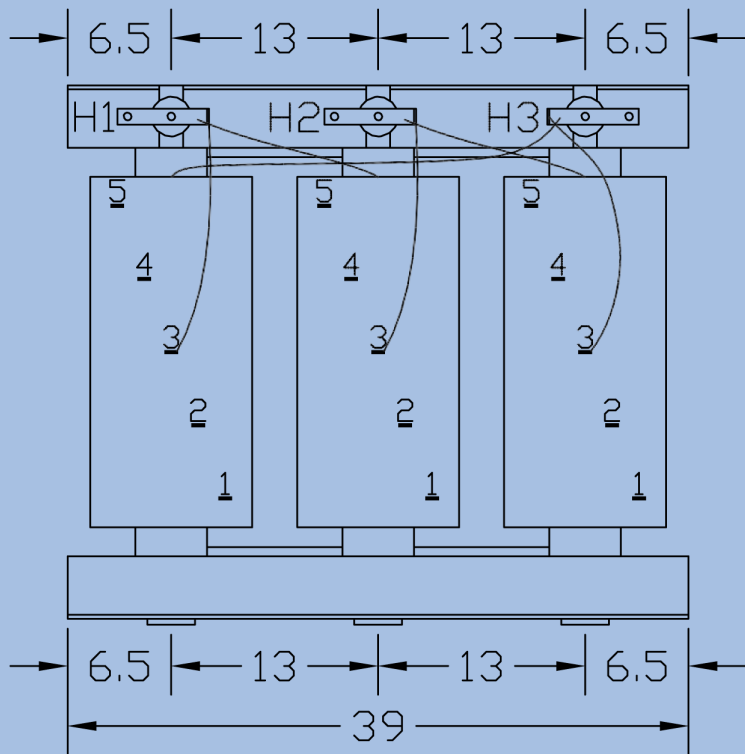
**Corrugated Duct Technology (CDT)** promotes more air flow and transformer efficiency.

**OVAL Technology** provides superior short circuit strength.



|           |           |  |       |            |       |  |
|-----------|-----------|--|-------|------------|-------|--|
| REVISIONS | PRINTS    |  | Drawn | SB         | Title | Approximate weight: 946lbs<br>OUTLINE<br>4160DELTA@0KVA, 480Y@75KVA, |
|           | Prod.     |  | Date  | 10/26/2012 |       |  |
|           | Wdg.      |  | Chk.  | KC         |       |  |
|           | Metal M&B |  | Scale | NTS        |       |  |
|           | Metal E   |  | Dwg#  | B0040ME-2  |       |  |
|           | Insul.    |  | Sht   | 1          |       |  |
|           | Bus       |  | Of    | 1          |       |  |
|           | Ass'y     |  |       |            |       |  |
| Test      |           |  |       |            |       |  |

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**SMC**

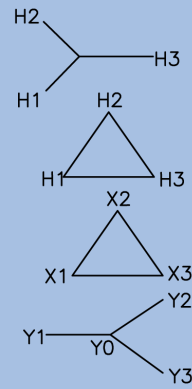
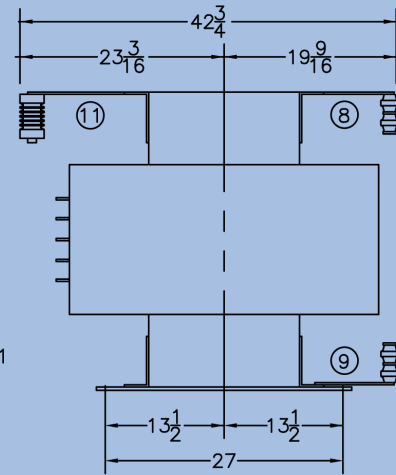
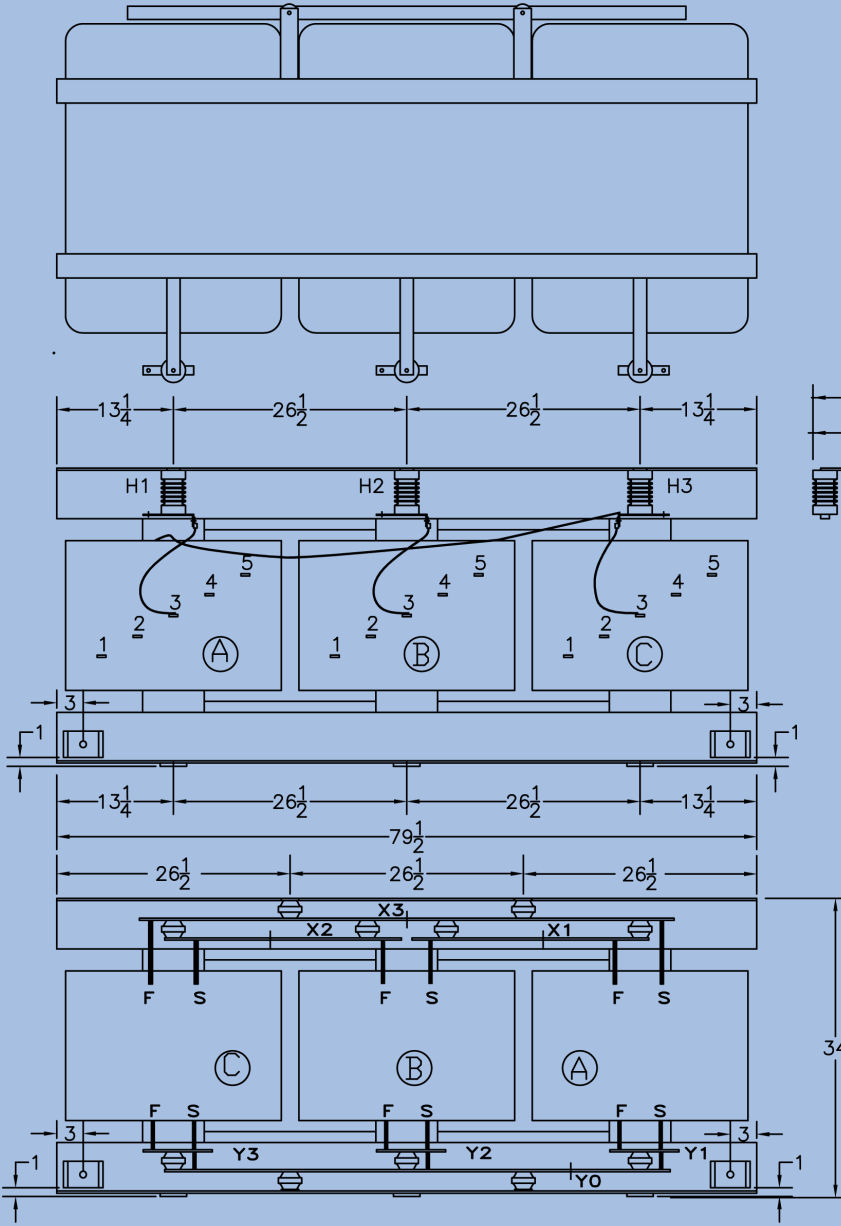


|       |           |
|-------|-----------|
| Drawn | KC        |
| Date  | 9/19/2012 |
| Chk.  |           |
| Scale | NTS       |

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**SMC**

|        |  |
|--------|--|
| Title  | OUTLINE<br>CORE & COIL WEIGHT: 2,886 LBS |
| Dwg#   | Z0500ME0-2                               |
| Sht Of | 1 / 1                                    |

REVISIONS

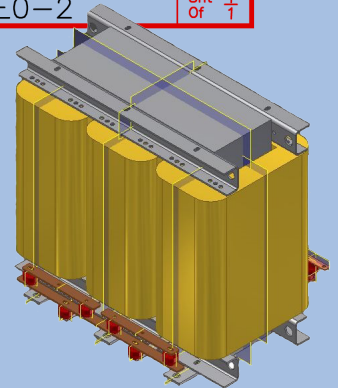
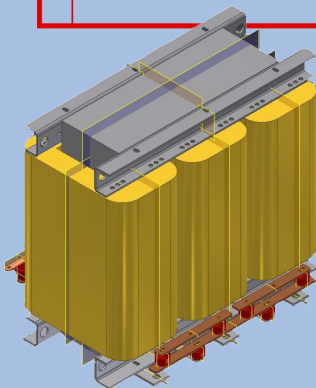


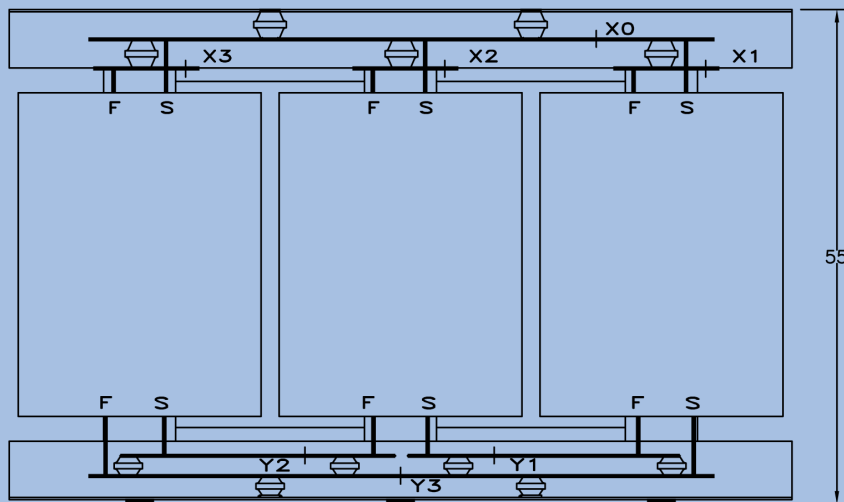
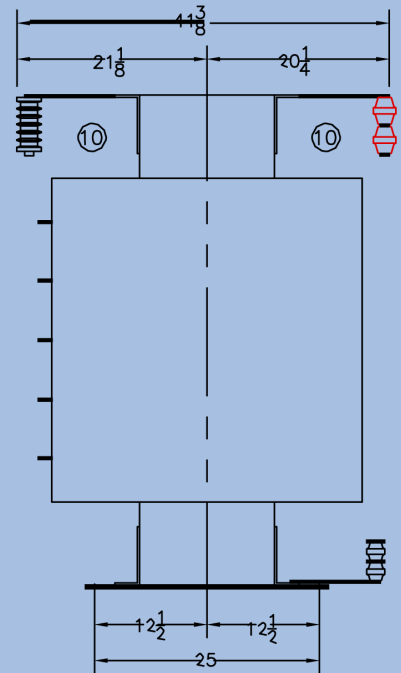
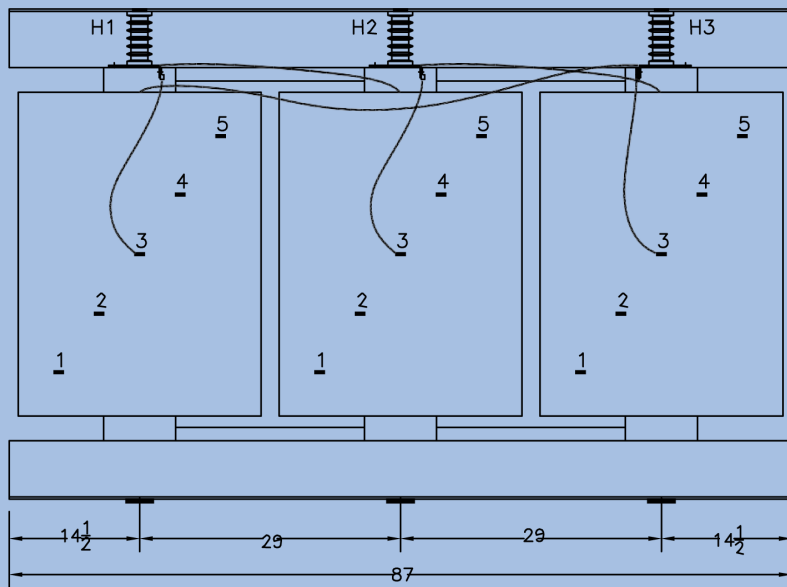
REVISIONS

|           |       |            |
|-----------|-------|------------|
| PRINTS    | Drawn | SB         |
| Prod.     | Date  | 10/30/2009 |
| Wdg.      | Chk.  | KC         |
| Metal M&B | Scale | NTS        |
| Metal E   |       |            |
| Insul.    |       |            |
| Bus       |       |            |
| Ass'y     |       |            |
| Test      |       |            |

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Title Approximate weight: 9,000 lbs  
**OUTLINE**  
 7200DELTAx12470Y@750KVA, 480DELTA@750KVA, 995Y/575@750KVA  
 Dwg# B1500SIE0-2 Sht 1 of 1





12470 DELTA @ 3000KVA, 4160Y @ 2000KVA, 575 DELTA @ 1000KVA

REVISIONS

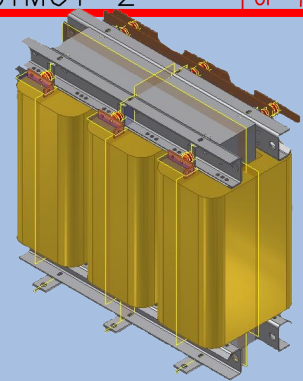
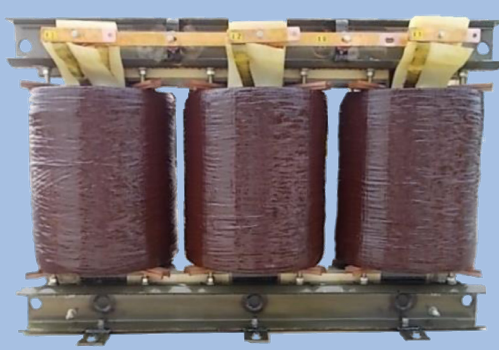
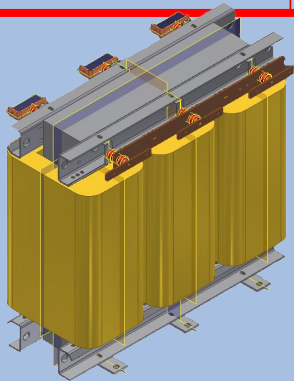
|           |       |           |
|-----------|-------|-----------|
| PRINTS    | Drawn | KC        |
| Prod.     | Date  | 9/12/2012 |
| Wdg.      | Chk.  |           |
| Metal M&B | Scale | NTS       |
| Metal E   |       |           |
| Insul.    |       |           |
| Bus       |       |           |
| Ass'y     |       |           |
| Test      |       |           |

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**SMC**

Title Approximate weight: 14,672lbs  
OUTLINE

Dwg# F3000TMG1-2

Sht 1  
Of 1



## DURATRANS® VS Standard Dry Type Comparison of Thermal Performance

|  | Standard dry type Transformer | DURATRANS® Transformer | Improvement in Thermal performance |
|--|-------------------------------|------------------------|------------------------------------|
| Full load temperature rise at similar watts per square inch of cooling surface | 148.7° C                      | 129.3° C               | 15%                                |

Tested per ANSI C57.12.91

This chart shows the thermal performance of the **DURATRANS®** Transformer compared to the Standard Dry Type Transformer. This improvement demonstrates the **DURATRANS®** Transformer's superior ability to handle thermal shocks from sudden peak overloads and cyclic loading, making it ideal for rectifier and variable frequency drive applications.



## DURATRANS® Average sound level, describes three-phase high voltage transformers

| Equivalent two-winding [KVA] | Sound Level | Total Weight (lb) IP00/IP23 | Uk [%] | Length [inches] IP00/IP23 | Width [inches] IP00/IP23 | Height [inches] IP00/IP23 |
|------------------------------|-------------|-----------------------------|--------|---------------------------|--------------------------|---------------------------|
| 151-300                      | 60          | 3,144/3,458                 | 6.0    | 57.91/71.96               | 32.28/61.03              | 57.47/76.78               |
| 301-500                      | 62          | 4,015/5,019                 | 6.0    | 61.41/81.88               | 33.46/62.21              | 63.38/84.65               |
| 501-700                      | 64          | 4,684/5,577                 | 6.0    | 61.41/81.88               | 33.46/62.21              | 62.38/84.65               |
| 701-1000                     | 65          | 5,577/6,358                 | 6.0    | 64.96/81.88               | 38.57/62.21              | 69.29/86.61               |
| 1001-1500                    | 66          | 6,470/7,920                 | 6.0    | 66.01/91.72               | 38.57/62.21              | 74.01/94.48               |
| 1501-2000                    | 68          | 7,696/9,146                 | 6.0    | 69.55/91.72               | 38.57/62.21              | 75.59/94.48               |
| 2001-3000                    | 70          | 9,259/10,374                | 6.0    | 70.73/104.71              | 41.32/70.08              | 83.46/107.87              |
| 3001-4000                    | 71          | 11,043/12,502               | 6.0    | 74.27/113.37              | 51.16/70.08              | 90.94/119.68              |

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