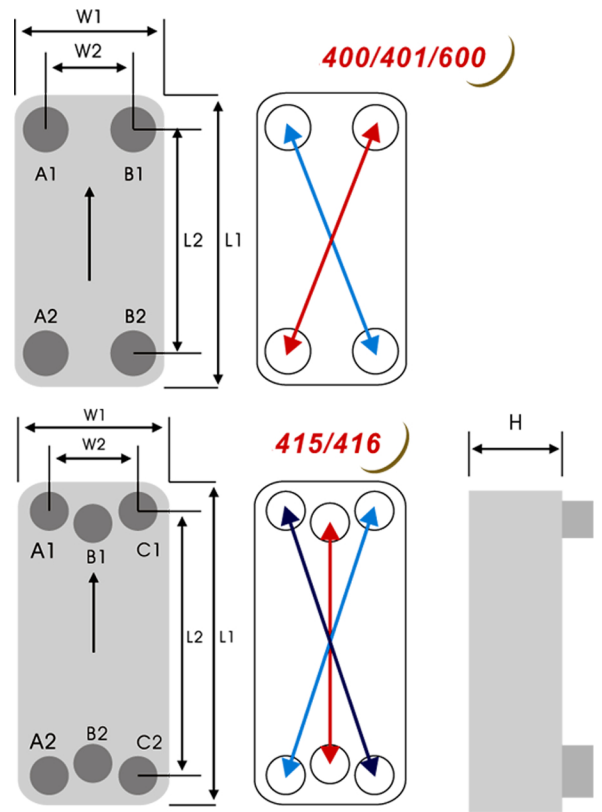


ZR Series - Large Diagonal Flow Brazed Plate Heat Exchanger



The newly innovative ZR series is designed with a diagonal flow pattern, providing higher efficiency to replace other traditional shell and tube, double tube or multi-tube heat exchangers in various applications. The advantage of ZR series dual circuit is providing the best performance in both full load and part load conditions. ZR series single circuit is specially designed for large volume and high heat transfer efficiency requirement.

(Note: 400/401/Z600: 4 connections, 415/416: Dual Circuit -6 connections)



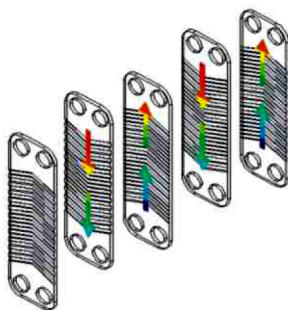
| Brazing Material | Copper | | Copper (Extra Strength) | |
|-------------------------------|----------------------------------|----------------------------------|---------------------------|----------------------------------|
| Model | ZR-400/ZR-600 (A2, B1/A1, B2) | ZR-415 (A2, C1/A1, C2/B1, B2) | ZR-401 (A2, B1/A1, B2) | ZR-416 (A2, C1/A1, C2/B1, B2) |
| Max. Working Pressure (bar) | 30/30 | 30/30/30 | 45/30 | 45/45/30 |
| Min. Test Pressure (bar) | 43/43 | 43/43/43 | 65/43 | 65/65/43 |
| Max. Working Temperature (°C) | 200 °C | | | |

| Model | L1 (mm) | L2 (mm) | W1 (mm) | W2 (mm) | H Thickness (mm) | Weight (kg) | Heat Transfer Area/ plate (m ²) | Total Heat Transfer Area (m ²) | Volume/ Channel (liter) | Total Volume (liter) |
|--------|---------|---------|---------|---------|------------------|--------------|---|--|-------------------------|----------------------|
| ZR-400 | 751 | 650 | 321 | 220 | 14.0+2.38*N | 33.64+0.89*N | 0.2074 | (N-2)*0.2074 | 0.423 | (N-1)*0.423 |
| ZR-415 | 751 | 656 | 321 | 226 | 14.0+2.40*N | 33.82+0.87*N | 0.2074 | (N-2)*0.2074 | 0.414 | (N-2)*0.414 |
| ZR-600 | 945 | 810 | 375 | 240 | 14.0+2.38*N | 45.94+1.23*N | 0.3 | (N-2)*0.3 | 0.62 | (N-1)*0.62 |

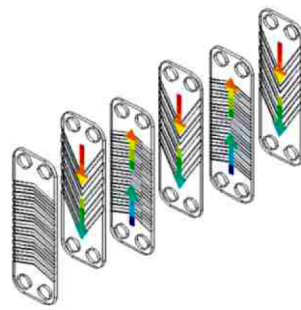
| Model | L1 (mm) | L2 (mm) | W1 (mm) | W2 (mm) | H Thickness (mm) | Weight (kg) | Heat Transfer Area/ plate (m ²) | Total Heat Transfer Area (m ²) | Volume/ Channel (liter) | Total Volume (liter) |
|--------|---------|---------|---------|---------|------------------|--------------|---|--|-------------------------|----------------------|
| ZR-401 | 751 | 650 | 321 | 220 | 23.0+2.38*N | 39.02+1.03*N | 0.2074 | (N-2)*0.2074 | 0.423 | (N-1)*0.423 |
| ZR-416 | 751 | 656 | 321 | 226 | 23.0+2.40*N | 39.60+1.01*N | 0.2074 | (N-2)*0.2074 | 0.414 | (N-2)*0.414 |

N: number of plates

The ZR series is designed with 3 different types of plates which satisfy various working conditions.



High Heat Transfer Performance



Standard



Low Pressure Drop



radian
heatsinks

ZR Series - Model Selection Chart

R22 vs. Water Condenser

Based on ARI-450 Standard

| RT | kW | kBTU/H | ZR-400 | ZR-415 | ZR-600 |
|-----|--------|--------|-------------|------------|-------------|
| 40 | 140.64 | 480 | ZR-400Mx48 | ZR-415x50 | |
| 50 | 175.80 | 600 | ZR-400Mx60 | ZR-415x62 | |
| 60 | 210.96 | 720 | ZR-400Mx72 | ZR-415x74 | |
| 75 | 263.70 | 900 | ZR-400Mx90 | ZR-415x90 | |
| 100 | 351.60 | 1200 | ZR-400Mx124 | ZR-415x126 | |
| 125 | 439.50 | 1500 | ZR-400Mx162 | ZR-415x162 | |
| 150 | 527.40 | 1800 | ZR-400Mx208 | ZR-415x210 | |
| 175 | 615.30 | 2100 | | | ZR-600Mx166 |
| 200 | 703.20 | 2400 | | | ZR-600Mx194 |
| 225 | 791.10 | 2700 | | | ZR-600Mx218 |

R22 vs. Water Evaporator

Based on ARI-480 Standard

| RT | kW | kBTU/H | ZR-400 | ZR-415 | ZR-600 |
|-----|--------|--------|-------------|------------|-------------|
| 40 | 140.64 | 480 | ZR-400Hx60 | ZR-415x62 | |
| 50 | 175.80 | 600 | ZR-400Hx74 | ZR-415x74 | |
| 60 | 210.96 | 720 | ZR-400Hx90 | ZR-415x90 | |
| 75 | 263.70 | 900 | ZR-400Hx114 | ZR-415x114 | |
| 100 | 351.60 | 1200 | ZR-400Hx158 | ZR-415x158 | |
| 125 | 439.50 | 1500 | | | ZR-600Hx188 |
| 150 | 527.40 | 1800 | | | ZR-600Hx230 |

R134A vs. Water Condenser

Based on ARI-450 Standard

| RT | kW | kBTU/H | ZR-400 | ZR-415 | ZR-600 |
|-----|--------|--------|-------------|------------|-------------|
| 40 | 140.64 | 720 | ZR-400Mx58 | ZR-415x58 | |
| 50 | 175.80 | 900 | ZR-400Mx72 | ZR-415x74 | |
| 60 | 210.96 | 1200 | ZR-400Mx84 | ZR-415x86 | |
| 75 | 263.70 | 1500 | ZR-400Mx106 | ZR-415x106 | |
| 100 | 351.60 | 1800 | ZR-400Mx140 | ZR-415x142 | |
| 125 | 439.50 | 2100 | ZR-400Mx176 | ZR-415x178 | |
| 150 | 527.40 | 2400 | | | ZR-600Mx190 |
| 175 | 615.30 | | | | ZR-600Mx224 |
| 200 | 703.20 | | | | ZR-600Mx254 |

R134A vs. Water Condenser

Based on ARI-458 Standard

| RT | kW | kBTU/H | ZR-400 | ZR-415 | ZR-600 |
|-----|--------|--------|--------------|-------------|-------------|
| 40 | 140.64 | 480 | ZR-400Hx64 | ZR-415x66 | |
| 50 | 175.80 | 600 | ZR-400Hx80 | ZR-415x82 | |
| 60 | 210.96 | 720 | ZR-400Hx98V | ZR-415x98V | |
| 75 | 263.70 | 900 | ZR-400Hx126V | ZR-415x126V | |
| 100 | 351.60 | 1200 | ZR-400Hx202V | ZR-415x202V | |
| 125 | 439.50 | 1500 | | | ZR-600Hx206 |
| 150 | 527.40 | 1800 | | | ZR-600H-254 |

R410A vs. Water Condenser

Based on ARI-450 Standard

| RT | kW | kBTU/H | ZR-401 | ZR-416 |
|-----|--------|--------|-------------|------------|
| 40 | 140.64 | 480 | ZR-401Mx48 | ZR-416x50 |
| 50 | 175.80 | 600 | ZR-401Mx60 | ZR-416x62 |
| 60 | 210.96 | 720 | ZR-401Mx72 | ZR-416x74 |
| 75 | 263.70 | 900 | ZR-401Mx90 | ZR-416x90 |
| 100 | 351.60 | 1200 | ZR-401Mx124 | ZR-416x126 |
| 125 | 439.50 | 1500 | ZR-401Mx162 | ZR-416x162 |
| 150 | 527.40 | 1800 | ZR-401Mx208 | ZR-416x210 |

R410A vs. Water Condenser

Based on ARI-480 Standard

| RT | kW | kBTU/H | ZR-401 | ZR-416 | ZR-600 |
|-----|--------|--------|--------------|-------------|-------------|
| 40 | 140.64 | 480 | ZR-401Mx50 | ZR-416x50 | |
| 50 | 175.80 | 600 | ZR-401Mx62 | ZR-416x62 | |
| 60 | 210.96 | 720 | ZR-401Mx76 | ZR-416x78 | |
| 75 | 263.70 | 900 | ZR-401Mx96 | ZR-416x98 | |
| 100 | 351.60 | 1200 | ZR-401Mx130v | ZR-416x130 | |
| 125 | 439.50 | 1500 | ZR-401Mx172v | ZR-416x174v | |
| 150 | 527.40 | 1800 | | | ZR-600Mx200 |
| 175 | 615.30 | 2100 | | | ZR-600Mx244 |

