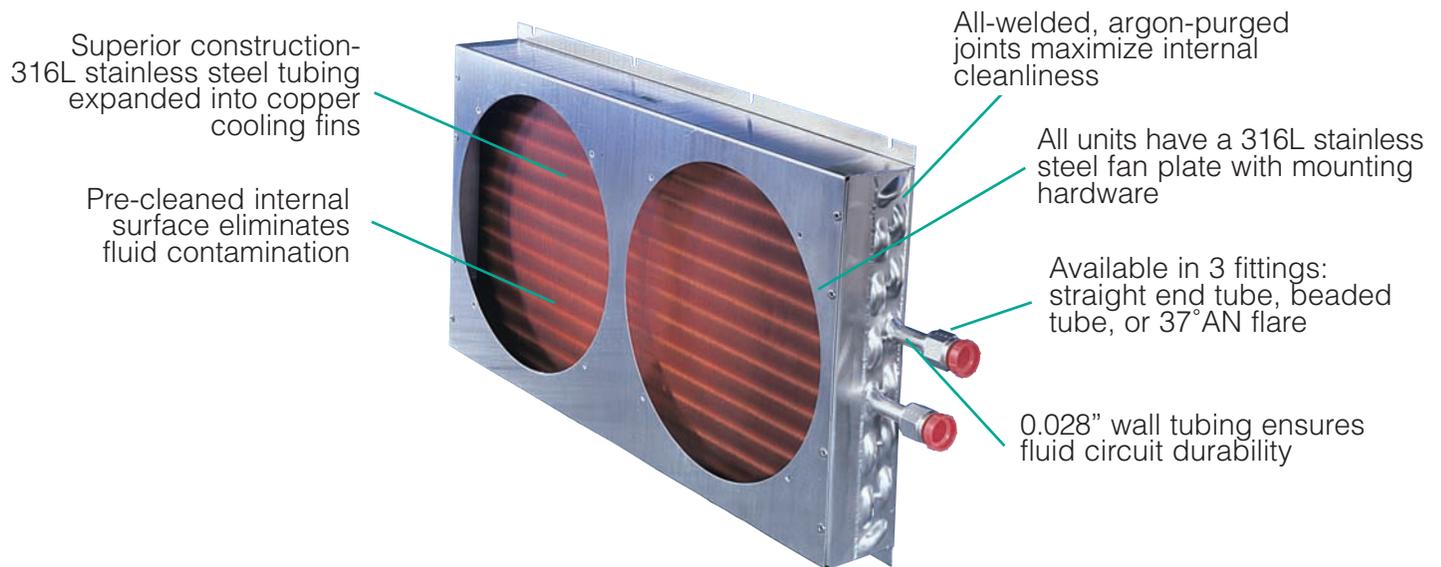


# STAINLESS STEEL HEAT EXCHANGERS – 4000 SERIES



Compatible with deionized water and corrosive liquids, Lytron's 4000 Series heat exchangers provide maximum heat transfer while preserving absolute fluid integrity. To maintain coolant purity and corrosion resistance, the fluid path is constructed entirely of 316L stainless steel. We use copper fin to maximize heat transfer.

Lytron's ISO 9001 manufacturing facility produces consistently clean, leak-free heat exchangers. We start with pre-cleaned stainless steel tubing which is mechanically expanded into the copper fins for an intimate thermal connection. This tight bond guarantees maximum thermal performance. The tube-fin assembly is then welded to stainless steel tube sheets. Finally, the heat exchanger core is fitted with a fan plate which contains slotted mounting flanges.

All-welded construction gives the 4000 Series heat exchangers unsurpassed durability and performance. Each unit is pressure tested to 150 psi (10.3 bars) to ensure leak-free reliability. The 4000 Series maximum operating temperature is 400°F (200°C).

The 4000 Series is available in seven sizes with straight tube, beaded tube or AN fittings. Lytron also offers fans and finger guards for the 4000 Series heat exchangers.

**Applications:**

- Medical Laser Cooling
- Industrial Laser Cooling
- Water-Cooled Optics
- Cooling Effluent Gas
- Batch Oven Cooling



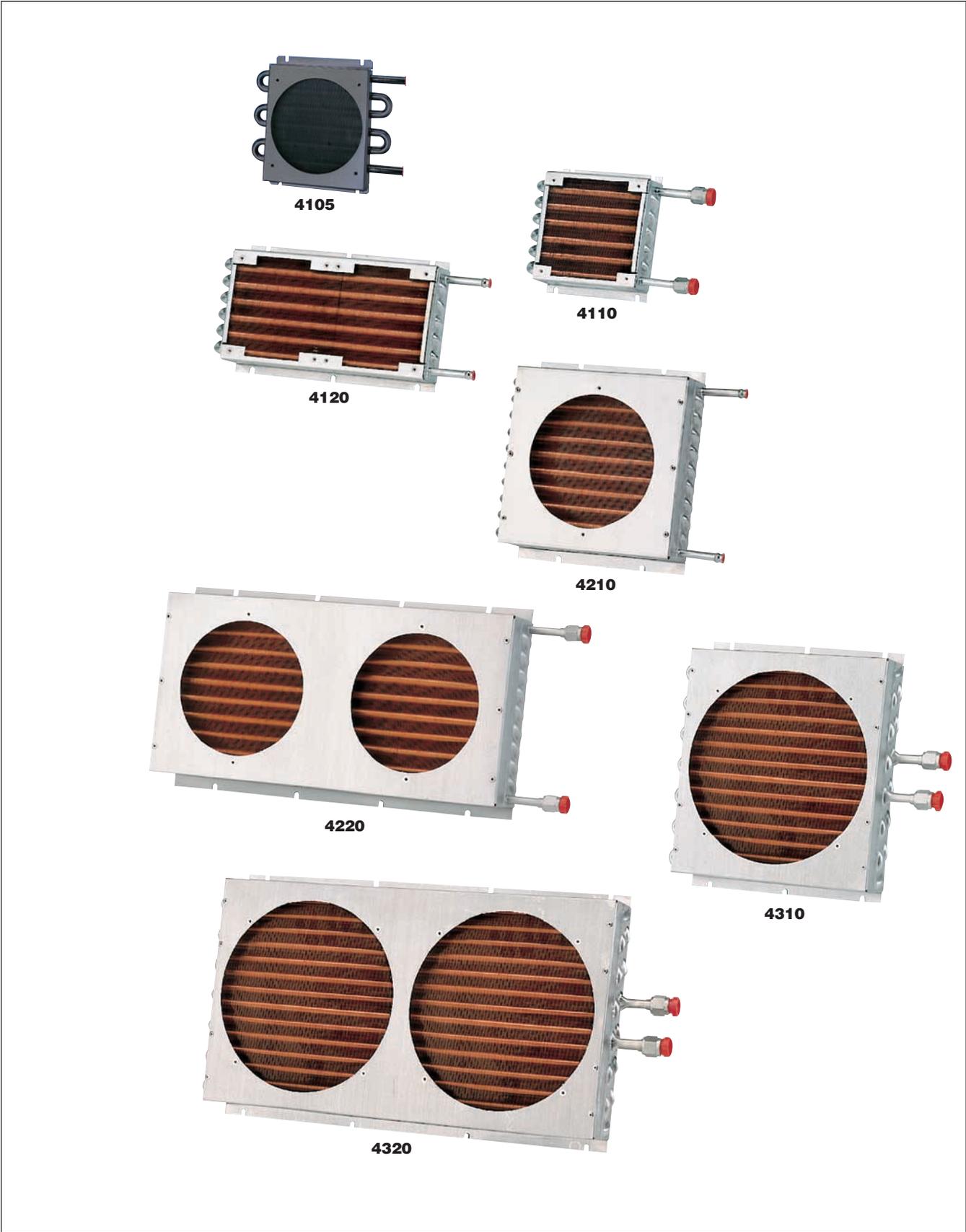
For ambient cooling systems using 4000 Series heat exchangers, see page 29.

Lytron has a stainless steel heat exchanger for every requirement. Applications which can accept slightly lower performance will realize a significant cost savings with Lytron's Aspen Series stainless steel heat exchangers. (See page 44.) To

help you with product selection, a comparison of Aspen versus our 4000 Series is shown on page 49. Custom stainless steel heat exchangers are available in OEM quantities. An overview of Lytron's custom capabilities is presented on page 60.

STAINLESS STEEL HEAT EXCHANGERS

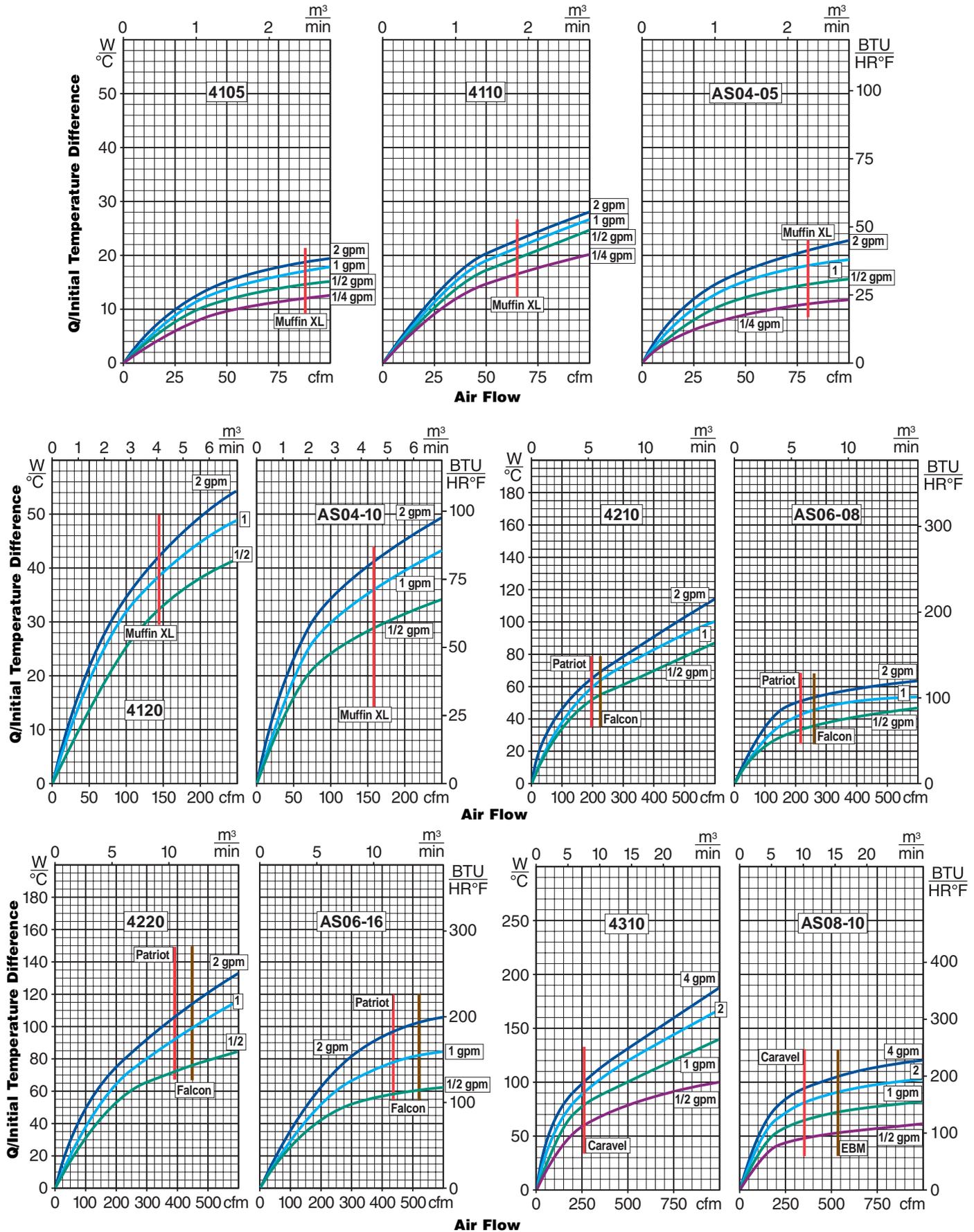
# 4000 SERIES STANDARD PRODUCTS



STAINLESS  
STEEL HEAT  
EXCHANGERS

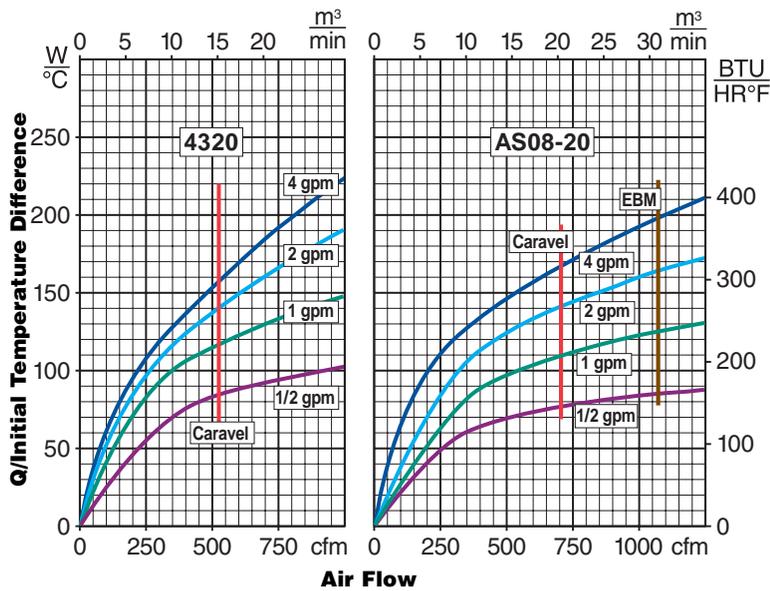
# TECHNICAL INFORMATION

## Thermal Performance for Water

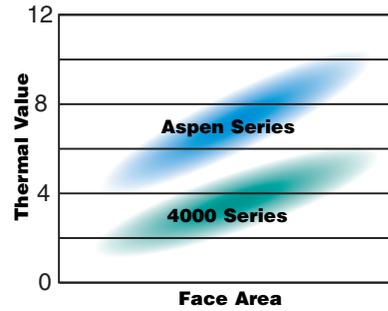


# TECHNICAL INFORMATION

## Thermal Performance for Water



## Thermal Value Comparison

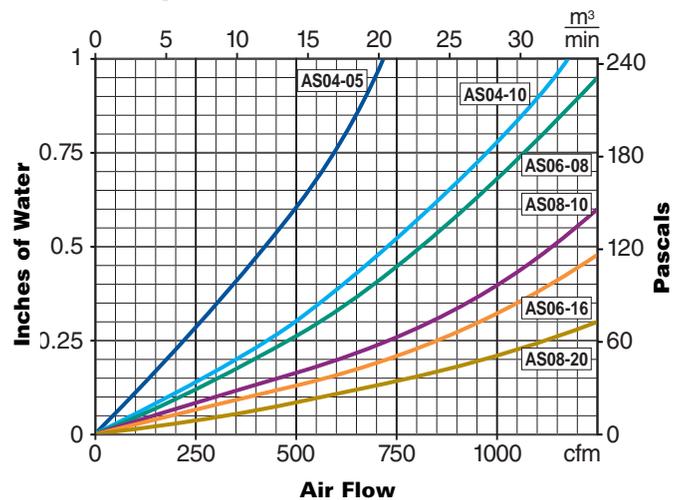
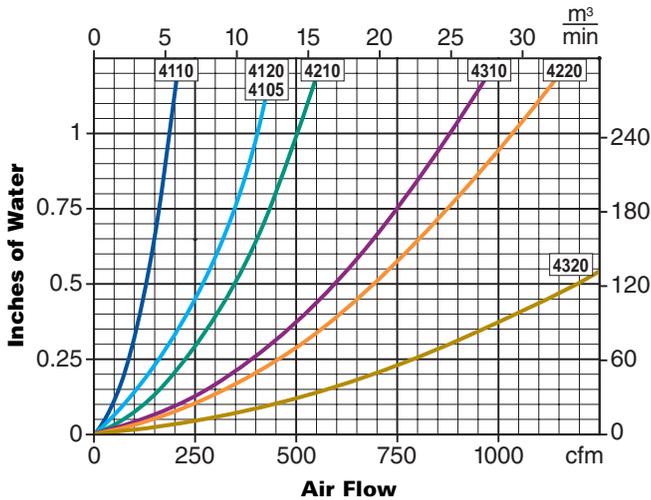


Lytron offers two stainless steel heat exchanger product lines: the Aspen line and the 4000 Series. For your convenience, the performance of the Aspen and 4000 Series are plotted side-by-side.

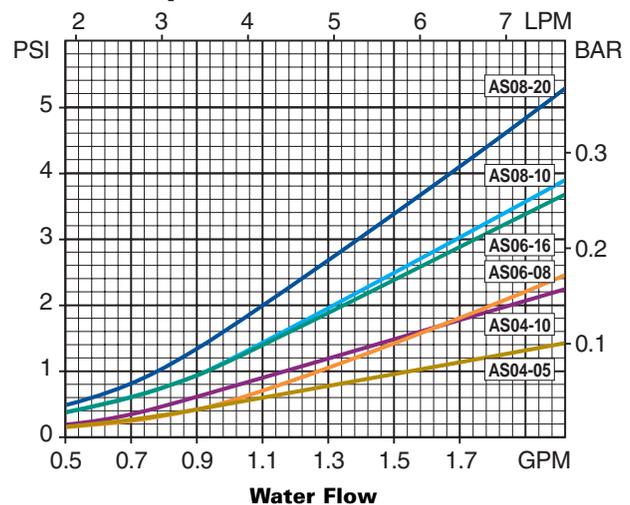
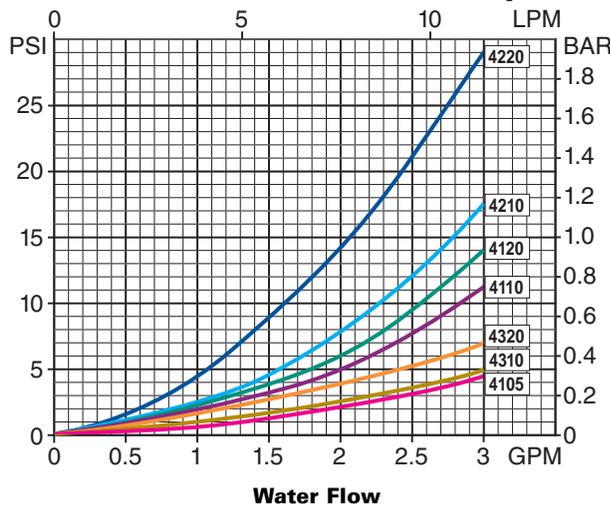
As an overview, the graph above plots thermal value (defined as thermal capacity divided by price) versus face area for the Aspen and 4000 Series. It shows that Aspen offers a better thermal capacity per dollar per surface area. While the 4000 Series costs more than the Aspen Series, it offers slightly more capacity in a comparable size.

Notes: The vertical lines indicate the performance provided by our standard fans at 60Hz and 70°F. For 50Hz fan performance, contact Lytron application engineering. For higher resolution performance charts, see [www.Lytron.com](http://www.Lytron.com). Maximum operating temperature 400°F (200°C). Refer to page 62 for thermal calculations for heat exchangers.

## Air Side Pressure Drop

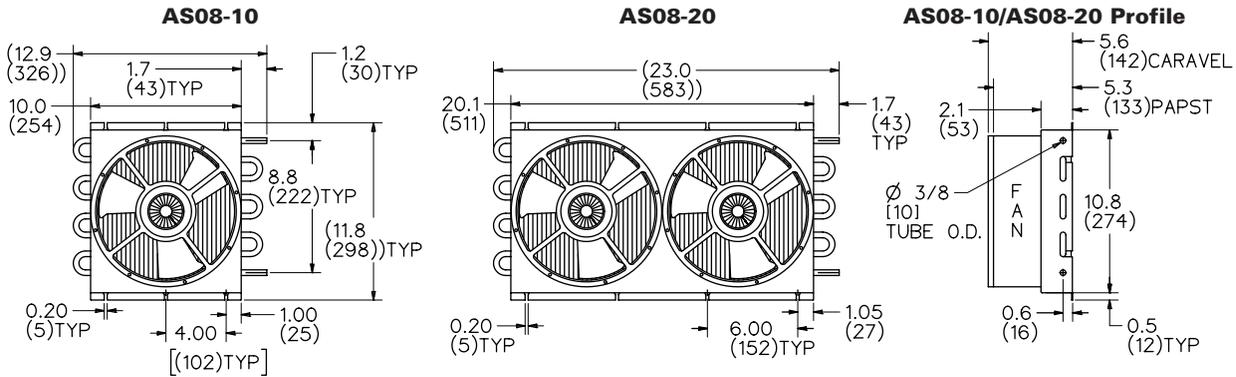
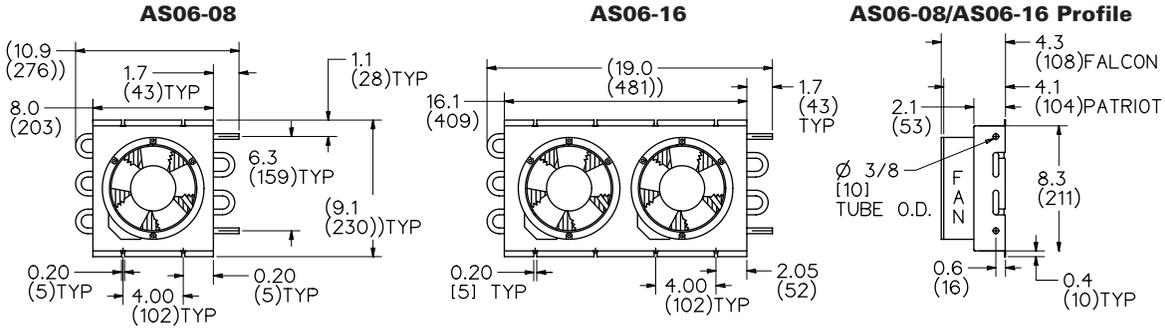
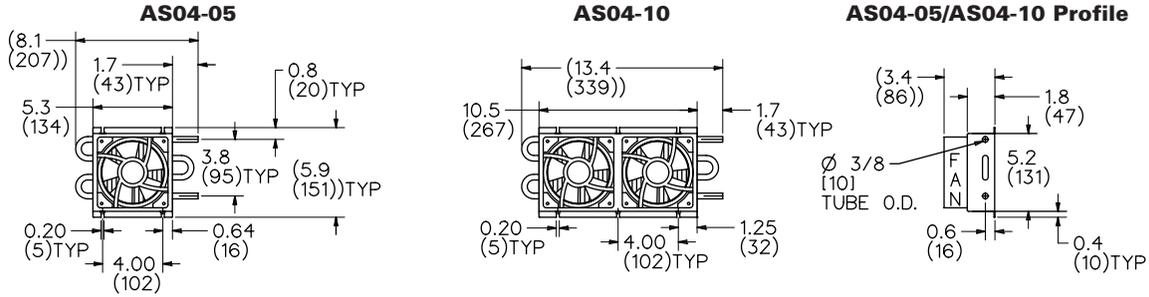


## Liquid Side Pressure Drop



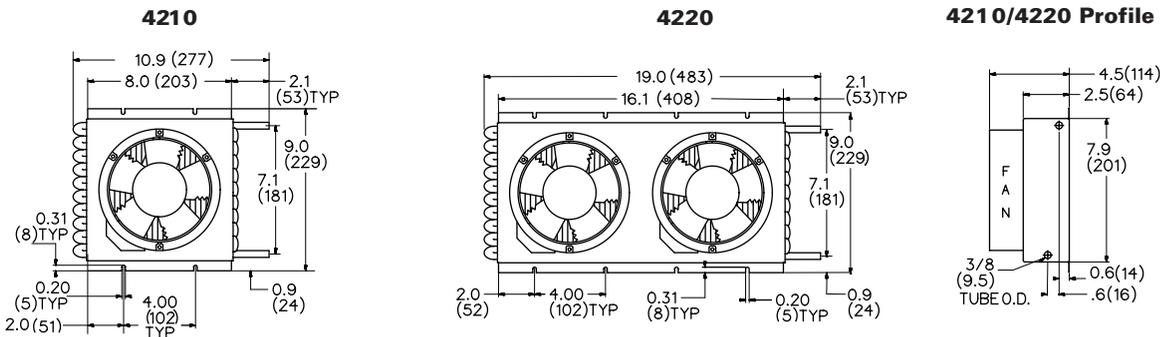
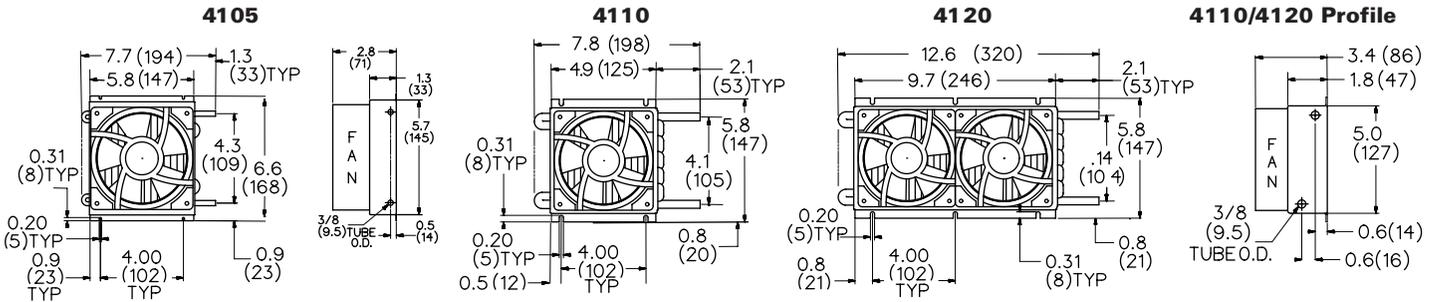
STAINLESS  
STEEL HEAT  
EXCHANGERS

## Aspen Series Dimensions

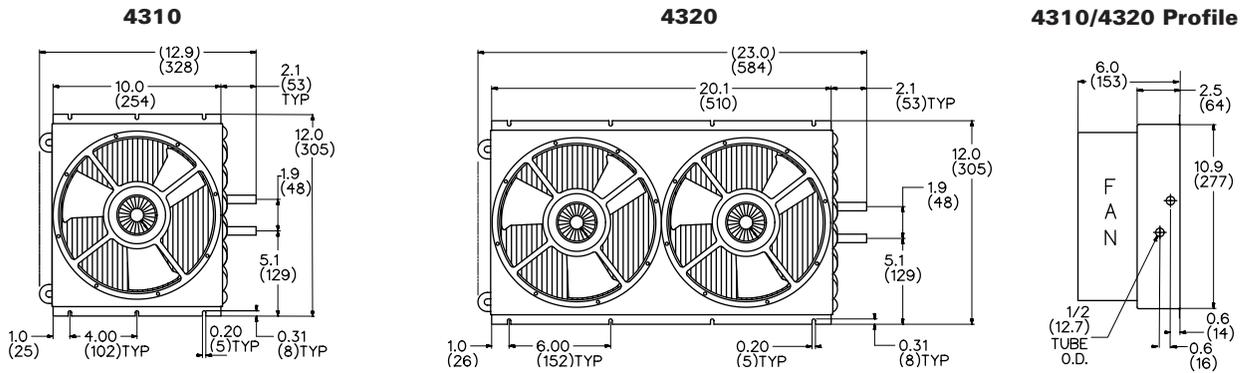


Note: For additional drawing detail and tolerances, see product drawings at [www.Lytron.com](http://www.Lytron.com).

## 4000 Series Dimensions



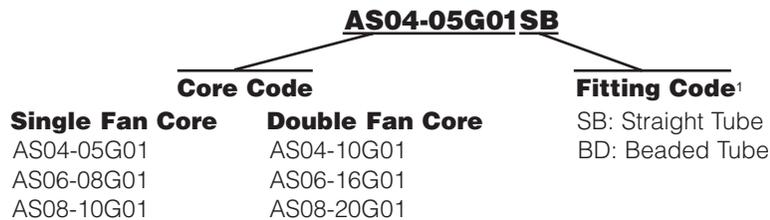
## 4000 Series Dimensions



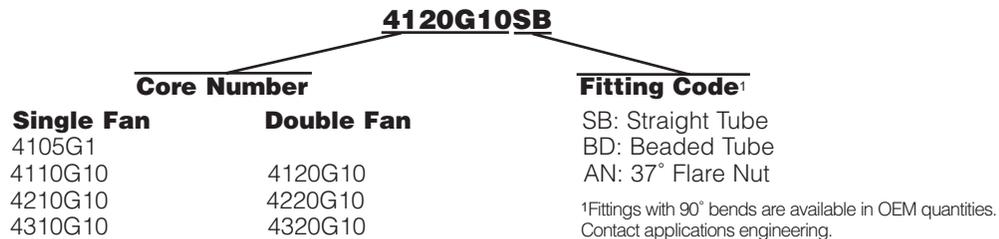
Note: For additional drawing detail and tolerances, see product drawings at [www.Lytron.com](http://www.Lytron.com).

# ORDERING INFORMATION

To order a standard Aspen Series heat exchanger, create the part number by selecting a core code, and fitting style. Technical information about fitting styles, product weight and fluid volume can be found on page 64.



To order a 4000 Series stainless steel heat exchanger, create the part number by selecting a core code and fitting style. Technical information about fitting styles, product weight and fluid volume can be found on page 64.



### Accessories<sup>2</sup>

**AS04-05 & AS04-10  
4105, 4110 & 4120**

**Muffin XL® Fan**

Fan, 115 volt = P/N 102076  
Fan, 230 volt = P/N 102076-01  
Power Cord = P/N 101466  
Finger Guard = P/N 101467

**Push-to-Connect Adapters<sup>3</sup> for 4105,  
4110, 4120, 4210, 4220, & all Aspen Series**

Straight Union 3/8" O.D. 430-0448  
Union Elbow 3/8" Tubing O.D. 102190-01  
Transition Union 3/8"- 1/2" Tubing O.D. 102189-01

**Push-to-Connect Adapters<sup>3</sup> for 4310 & 4320**

Transition Union 1/2"- 3/8" O.D. 102189-01  
Union Elbow 1/2" Tubing O.D. 102190-02

**Tube-to-Hose Adapter<sup>4</sup>**

3/8" Tubing O.D. to 3/8" Hose Barb 102191-01  
1/2" Tubing O.D. to 3/8" Hose Barb 102191-02  
1/2" Tubing O.D. to 1/2" Hose Barb 102191-03

**AS06-08 & AS06-16  
4210 & 4220**

**Falcon® Fan**

Fan, 115 volt = P/N 102070-01  
Fan, 230 volt = P/N 102070-02

**Patriot® Fan**

Fan, 115 volt = P/N 101116-01  
Fan, 230 volt = P/N 101116-02

**For Falcon and Patriot Fan**

Power Cord = P/N 101466  
Finger Guard = P/N 101116-03

**AS08-10 & AS08-20  
4310 & 4320**

**Caravel® Fan**

Fan, 115 volt = P/N 100236-01  
Fan, 230 volt = P/N 100236-02  
Power Cord = P/N 101466  
Finger Guard = P/N 101434

**EBM Fan** (Aspen only, requires Adapter)

Fan, 115 volt = P/N 102105-01  
Fan, 230 volt = P/N 102105-03  
Power Cord = P/N 102175  
Finger Guard = P/N 102106  
Adapter Ring (Required) = P/N 508520

<sup>2</sup>Accessories are sold separately.

All fans are 50/60 Hz.

<sup>3</sup>Acetel bodies, Temp range: 0 to 60°C for water.  
Max pressure: 150 psi for air; 250 psi for water.

10 fittings per package. Push-to-Connect adapters have Nitrile O-rings and Acetel/stainless steel collets.

<sup>4</sup>Requires a Push-to-Connect adapter of the same O.D. to mate with heat exchanger.

STAINLESS  
STEEL HEAT  
EXCHANGERS