



The HRS F Series is a complete stainless steel shell and tube design ideal for pharmaceutical applications. The product flows through the interior tubes and the media fluid flows through the surrounding shell. A double tubeplate is fitted to avoid cross contamination between shell and tube side fluids. Using our corrugation technology, heat transfer and efficiency are increased over standard smooth tube heat exchangers. In addition potential fouling is minimised.

### APPLICATIONS

Water-to-Water  
Steam-to-Water  
Heating/Cooling

### MATERIALS OF CONSTRUCTION

Shell Side: AISI 304/316L Stainless Steel  
Tube Side: AISI 316L Stainless Steel

### STANDARD CONNECTIONS

Shell Side: Flange  
Tube Side: Clamp

### SURFACE FINISH

External: Satin or Polished  
Tube Side: Roughness <0.4  $\mu$

### STANDARD DESIGN CONDITIONS

Shell Side: 10 barg/185° C  
Tube Side: 10 barg/185° C

### RANGE

Models:	Lengths (m)	Surface area (m <sup>2</sup> )	Shell side Connection	Tube side Connection	Max flow shell (m <sup>3</sup> /hr)	Max flow tubes (m <sup>3</sup> /hr)	Volume shellside (L)	Volume tubeside (L)
F 4 64/17	0.7- 6.0	1.3	DN40	2.5"	17	6	11.7	3.7
F 7 76/17	0.7- 6.0	2.3	DN40	3"	17	10	15.5	6.5
F 13 104/17	0.7- 6.0	4.3	DN65	4"	40	20	29.0	12.0
F 21 129/17	0.7- 6.0	6.8	DN80	5"	55	32	44.4	19.4

By standard the following lengths can be supplied: 0.7 / 1.0 / 1.5 / 2.0 / 3.0 / 6.0  
The surface area and volumes shown are for 6 meter length models.

### FEATURES

Corrugated tubes for increased heat transfer

Bellow fitted to absorb differential expansion between shell and inner tubes

Multiple units can be interconnected and mounted in a frame

