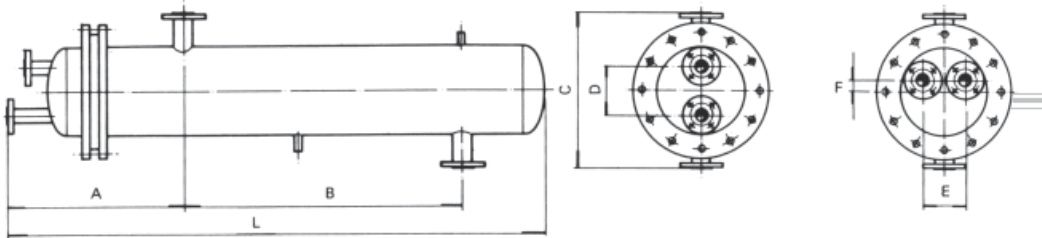


Shell & Tube Heat Exchangers - Series FS00-03

Serialized Units designed according to TEMA Code and in conformity with applicable Pressure Vessel Rules. These series are of U-Bundle floating type and bolted headers which allow for an easy plant maintenance. These series are ideal for heating or hot water generation with two phase fluids in a number of applications such as condensate recovery, hot water generation, steam flash recovery, tank heating, process heating, cooling of main and auxiliary lube circuits.



Dimensions

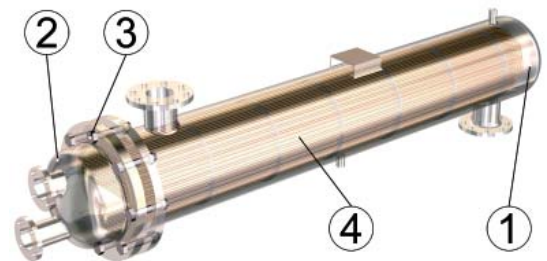


| Model | L (mm) | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | Connections | | Weight |
|-------|--------|--------|--------|--------|--------|--------|--------|-------------|-----------|--------|
| | | | | | | | | Primary | Secondary | |
| FS-00 | 860 | 200 | 540 | 210 | - | 50 | 27 | Ø 1" | Ø 2" | 40 |
| FS-01 | 1.250 | 200 | 950 | 220 | 55 | - | - | Ø 1" | Ø 2" | 52 |
| FS-02 | 1.660 | 200 | 1.320 | 220 | - | 50 | 27 | Ø 1" | Ø 2" | 60 |
| FS-03 | 1.760 | 200 | 1.450 | 220 | 55 | - | - | Ø 1" | Ø 2" | 62 |

Standard Design Pressure is PN 16 on the shell side and PN 6 on the tube side * Pressure Testing to 1.5 times Design Pressure. Standard Flanges according to DIN 2502 PN 16 – welded to the shell. Other flange standards can be provided on request. Wall thickness refer to Design Pressure.

Parts and Materials

| Part | Name | Material |
|------|-------------|---|
| 1 | Shell | Steel UNE / ISO 36011 – Galvanised finishing |
| 2 | Header | Steel UNE / ISO 36011 – Galvanised finishing |
| 3 | Fasteners | Steel B7 |
| 4 | Tube Bundle | Seamless Steel tubes, mechanically expanded Stainless Steel 304, 316, 316L / Copper |



Performance Graphs

The suitable Heat Exchanger is determined by the following factors: Power (Kcal/h), Inlet and outlet temperatures and Pressure Drop. The following table provides average performances of the standardised FS Series in typical application of heating and Hot Water Generation. It provides the performance in Kcal/h or Volume in L/hrs given the indicated parameters of the primary and secondary circuits.

HEATING (70°C / 90°C and 80°C / 90°C) in kcal/h.

| Fluids | Water - Water | | | | | | | | Steam - Water | | | | |
|--------|-----------------------------|--------------|--------------|--------------|-----------------------------|--------------|--------------|--------------|---------------|-----------------|---------------|-----------------|---------------|
| | Secondary Circuit 70° / 90° | | | | Secondary Circuit 80° / 90° | | | | 70° / 90° | | 80° / 90° | | |
| | 180° 120° | 170° 110° | 150° 120° | 130° 110° | 120° 100° | 180° 120° | 150° 120° | 130° 110° | 120° 100° | 1,5 (kg/cm2) | 5 (kg/cm2) | 1,5 (kg/cm2) | 5 (kg/cm2) |
| FS-00 | 20.300 | 18.500 | 16.500 | - | - | 23.400 | 20.700 | - | - | - | - | - | - |
| FS-01 | 38.500 | 30.800 | 28.400 | - | - | 41.200 | 32.400 | - | - | 42.300 | 72.800 | 38.700 | 64.500 |
| FS-02 | 76.800 | 62.500 | 58.800 | 28.700 | 20.300 | 83.500 | 55.700 | 30.400 | 24.600 | - | - | - | - |
| FS-03 | 85.400 | 70.300 | 64.500 | 40.300 | 28.400 | 94.500 | 75.200 | 42.700 | 29.200 | 61.700 | 105.400 | 52.400 | 92.400 |

HOT WATER GENERATION in lts/h

| Models | 10° - 60° | | | 10° - 55° | | | 10° - 50° | | | 10° - 45° | | |
|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 90° / 80° | 90° / 70° | 85° / 70° | 90° / 80° | 90° / 70° | 85° / 70° | 90° / 80° | 90° / 70° | 85° / 70° | 90° / 80° | 90° / 70° | 85° / 70° |
| FS-00 | - | - | - | - | - | - | - | - | - | 480 | 420 | 390 |
| FS-01 | - | - | - | - | - | - | 510 | 490 | 420 | 1.070 | 870 | 690 |
| FS-02 | 450 | 370 | 350 | 530 | 385 | - | 730 | 650 | 580 | 1.250 | 1.140 | 920 |
| FS-03 | 570 | 480 | 450 | 680 | 520 | 470 | 1.160 | 920 | 760 | 1.680 | 1.430 | 1.140 |

Pressure Drop Graphs for primary and secondary circuits are available at our Technical Dept. Please consult your nearest PILAN distributor.

Other units to comply with different performances on request.