

# Director Series Temperature Control System



Shown with optional Stainless Steel cabinet

Budzar Industries Director Series Reactor Temperature Control Systems deliver accurate and reliable temperature control to your process vessel across a very wide temperature range from -80° to 250°C. The heart of the Director is a PLC control system. The PLC includes a graphic Class 1, Div. 11 user interface with a touch screen for ease of use, and simple control and monitoring of your process. Data Collection and trending are also available.

The Director Series incorporates a seal-less magnetic drive pump for leak free operation. The pump can be controlled by an optional variable frequency drive to allow jacket delivery pressure to be precisely maintained anywhere from 4 PSI to 50 PSI. The electric immersion heater is energized by an SCR for true modulating output and extremely accurate temperature control.

The expansion tank is thermally isolated from the process loop to maintain the fluid in the tank at ambient temperature and protect the fluid from oxygen and thermal related damage.

Low temperature control is provided by an on-board low temperature refrigeration circuit complete with compressor, electronic modulating hot gas by-pass valve, electronic modulating thermal expansion valve, and compressor suction regulator. All these combine to provide trouble free operation even in the most demanding process conditions. Temperature down to -40°C are available in single compressor configurations. Optional cascade compressor configurations provide temperatures down to -80°C.

The PLC offers unparalleled flexibility and control. Single loop control can be selected with input from the vessel jacket or vessel contents. The Director Series also offers optional true cascade control with dual loop control of both the jacket and contents temperature.



engineering  
**PRECISION**

## COMPARE THESE FEATURES

- Each Budzar Industries unit is designed to maximize the productivity of your process. Budzar Industries quality and reliability provide excellent value for each dollar invested
- Temperature Range from 250°C to -40°C with single compressor modules and -80°C with cascade compressor modules
- Optional variable speed drive pump control from 4PSI to 50PSI to protect pressure sensitive jackets such as are used on glass vessels
- Magnetic Drive Seal-less Pump, all welded and flanged construction eliminates leaks, guaranteed
- SCR Modulating Heater Controls for precise temperature control
- Electronic modulating refrigeration capacity control down to 2%
- PLC Controls
  - Selectable Temperature Control, Jacket or Vessel Contents Temperature Control
  - Graphical user interface for easy operation
  - Ability to store temperature recipes
  - Communications options include: RS-485 and Ethernet
  - Data logging and trending software
  - Optional - DH+, Controlnet & Devicenet
- Electric Immersion Heaters rated from 6 to 96kW, low watt density design, flange mounted
- ± 1°C Temperature Control Accuracy
- Made in the USA

process  
**TEMPERATURE**  
control

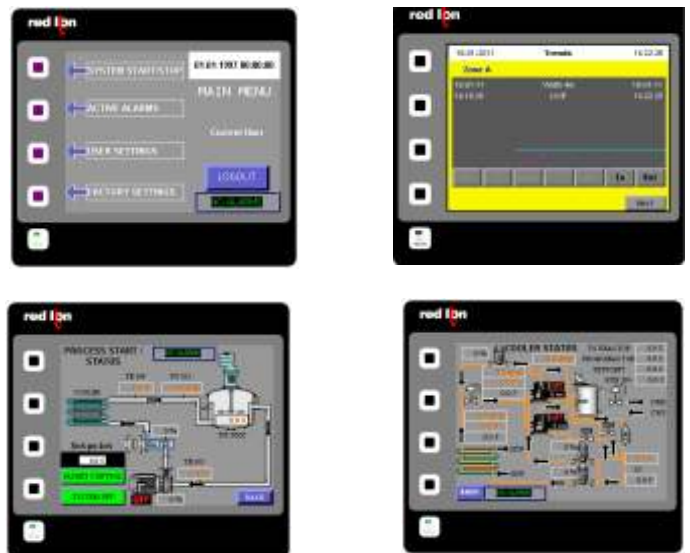
# Director Series Temperature Control System

Model	Heater (kW)	***Cooling Capacity, kW @ °C									Pump GPM /	Dimensions W (in) x D (in) x H (in)	FLA 460/3/60	FLA 230/3/60	10°F Condenser Water Req'd @ -40°C LWT
		250	200	100	0	-20	-40	-60	-80	-85					
DSFW-0202-C-FCB-S1	2	2.8	2.8	2.8	2.8	2	0.2	-	-	-	14 / 25	23.5X32.25X60	10.3	20.6	0.12 GPM
DSFW-2504-C-FCB-S1	4	3.8	3.8	3.8	3.8	2.7	0.5	-	-	-	14 / 25	23.5X32.25X60	13.0	26.0	0.31 GPM
DSFW-3506-C-FCB-S1	6	5.6	5.6	5.6	5.6	3.3	1	-	-	-	14 / 25	23.5X32.25X60	17.4	34.8	0.61 GPM
DSFW-0506-C-FCB-S1	6	-	7.6	7.6	7.6	5.3	1.7	-	-	-	14 / 25	23.5X32.25X60	19.7	39.4	1.05 GPM
DSFW-0606-C-FCB-D1	6	-	7.4	7.4	7.4	6.1	3.4	0.6	-	-	14 / 25	23.5X32.25X60	25.0	50.0	2.09 GPM
DSFW-0612-C-FCB-D1	12	-	10	10	10	8.3	3.9	0.9	-	-	14 / 25	23.5X32.25X60	32.6	65.2	2.40 GPM
DSFW-0612-C-FCB-D1	12	-	12.6	12.6	12.6	10.4	4.4	1.2	-	-	14 / 25	29.5X41.25X60	32.6	65.2	2.70 GPM
DSFW-1012-C-FCB-D1	12	-	21.1	21.1	21.1	21.1	10.0	3.2	-	-	14 / 25	29.5X41.25X60	42.6	85.2	6.12 GPM
DSFW-1324-C-FCB-D1	24	-	31.7	31.7	31.7	31.7	15.5	5.2	-	-	14 / 25	36.2X39.5X65.2	64.6	129.2	9.53 GPM
DSFW-1724-C-FCB-D1	24	-	33.9	33.9	33.9	33.9	17.0	5.8	-	-	14 / 25	36.2X39.5X65.2	70.6	141.2	10.45 GPM
DSFW-2030-C-FCB-D1	30	-	36.1	36.1	36.1	36.1	18.5	6.3	-	-	14 / 25	36.2X47.4X65.2	80.2	160.4	11.37 GPM
DSFW-2536-C-FCB-D1	36	-	49.5	49.5	49.5	49.5	24.6	8.1	-	-	40 / 28	72X47.2X72.0	94.2	188.4	15.09 GPM
DSFW-3048-C-FCB-D1	48	-	62.9	62.9	62.9	62.9	30.6	9.9	-	-	40 / 28	72X47.2X72.0	128.1	256.2	18.81 GPM
DSFW-6096-C-FCB-D1	96	-	127.3	127.3	127.3	127.3	62.6	21.4	-	-	40 / 28	177.2X78.7X78.7	250.4	500.8	38.48 GPM
DSFW-2502-C-FCB-S2	2	2.1	2.1	2.1	2.1	1.8	1.5	0.9	0.5	0.4	7/15	23.5X32.25X60	16.2	32.4	0.92 GPM
DSFW-3503-C-FCB-S2	3	3.1	3.1	3.1	3.1	3.1	2.7	1.6	1	0.9	7/15	23.5X32.25X60	21.7	43.4	1.66 GPM
DSFW-0503-C-FCB-S2	3	-	4.2	4.2	4.2	4.2	3.7	2.3	1.4	1.3	7/15	29.5X41.25X60	29.4	58.8	2.27 GPM
DSFW-1306-C-FCB-S2	6	8.9	8.9	8.9	8.9	8.0	7	4.4	2.8	2.6	7/15	29.5X41.25X60	58.0	116.0	4.30 GPM
DSFW-1512-C-FCB-S2	12	-	13.6	13.6	13.6	11.8	10.3	6.5	4.2	3.8	14 / 25	36.2X47.4X65.2	66.4	132.8	6.33 GPM
DSFW-2012-C-FCB-S2	12	-	20.0	20.0	20.0	17.9	15.6	9.9	6.5	5.9	14 / 25	36.2X47.4X65.2	92.1	184.2	9.56 GPM
DSFW-2624-C-FCB-S2	24	-	26.4	26.4	26.4	23.9	20.8	13.2	8.7	7.9	14 / 25	36.2X47.4X65.2	129.6	259.2	12.79 GPM
DSFW-4536-C-FCB-S2	36	-	38.6	38.6	38.6	38.6	38.6	24.6	16.3	14.8	40 / 28	103.5X51.2X76.0	209.1	418.2	23.73 GPM

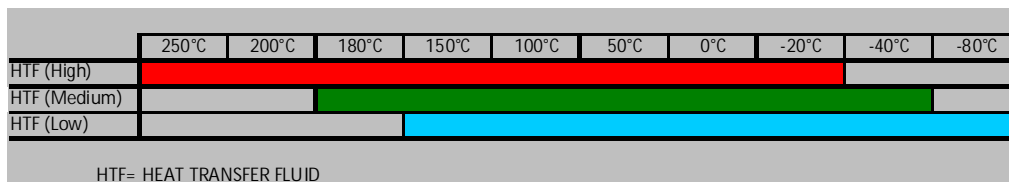
\*Based on minimum operating temperatures. Higher operating temperature may require more condensing water flow.



## PC Control, Data Logging & Trending Screens



## Fluid Temperature Ranges



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