

# OTP SERIES PORTABLE HOT OIL UNITS

FOR TEMPERATURES FROM 450°F TO 600°F



## Hot Oil Units Built to Take the Heat

Budzar Industries has over 30 years of experience engineering and building hot oil systems. Budzar engineers are experts at ensuring hot oil systems are accurate, leak-free and safe.

The Silver Series with its maximum operating temperature of 600°F shares the same engineering principles as Budzar's high temperature oil systems. With simple and easy to understand controls and a premium on operator safety, the Silver Series will stand the test of time.



## engineering PRECISION

- Welded pipe construction eliminates leaks
- Compact, space saving design
- Carbon steel powder coated sheet metal cabinet with lift off panel for maintenance access—no sheet metal screws to remove
- Ultra low heater watt density prevents “coking” and extends useful life of oil
- Y-strainer on pump suction line
- Internal by-pass valve maintains proper flow across the heater regardless of the pressure drop through your process
- Automatic air and water vapor purging system simplifies start-up and prevents pump cavitation
- Heater case design eliminates air pockets that can damage the heater element
- Heater center core baffles increase oil velocity and prevent damage to the oil
- Positive displacement pump with TEFC motor
- Integral 5 ft<sup>2</sup> Stainless steel cooling bundle provides smooth cooling profiles without flashing at high operating temperatures
- High temperature mechanical pump seal prevents leaks
- Reversible pump/evacuation
- Low pressure safety switch for protection against running without proper fill
- Non-proprietary PID microprocessor controller operator's digital display
- Electrically actuated automatic cooling control without system temperature spikes or cooling water flashing
- Motor starter with solid state overload protection
- Non-fused lockable rotary disconnect
- UL Listed panel
- Separate process and set point temperature displays
- Full lighted status display provides complete diagnostics for the system
- High level alarm
- Audible alarm



# PORTABLE SILVER SERIES HOT OIL

Model#	1SSOT	1220-NC-030	1220-NC-050	1220-NC-100	1230-NC-030	1230-NC-050	1230-NC-100	1250-NC-030	1250-NC-050	1250-NC-100
HEATER	kW	12	12	12	12	12	12	12	12	12
FLOW	GPM	20	20	20	30	30	30	50	50	50
TDH	Psi	30	50	100	30	50	100	30	50	100
MOTOR	HP	1	1.5	2	1.5	2	3	2	3	5
FLA@460/3/60	Amps	17.4	18.3	18.7	18.3	18.7	20.1	18.7	20.1	22.9
FLA@230/3/60	Amps	34.8	36.6	37.4	36.6	37.4	40.2	37.4	40.2	45.8
DIMENSIONS	Height	49"	49"	49"	49"	49"	49"	49"	49"	49"
	Width	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Length	48"	48"	48"	48"	48"	48"	48"	48"	48"

Model#	1SSOT	2420-NC-030	2420-NC-050	2420-NC-100	2430-NC-030	2430-NC-050	2430-NC-100	2450-NC-030	2450-NC-050	2450-NC-100
HEATER	kW	24	24	24	24	24	24	24	24	24
FLOW	GPM	20	20	20	30	30	30	50	50	50
TDH	Psi	30	50	100	30	50	100	30	50	100
MOTOR	HP	1	1.5	2	1.5	2	3	2	3	5
FLA@460/3/60	Amps	32.4	33.3	33.7	33.3	33.7	35.1	33.7	35.1	37.9
FLA@230/3/60	Amps	64.9	66.7	67.5	66.7	67.5	70.3	67.5	70.3	75.9
DIMENSIONS	Height	49"	49"	49"	49"	49"	49"	49"	49"	49"
	Width	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Length	48"	48"	48"	48"	48"	48"	48"	48"	48"

Model#	1SSOT	3620-NC-030	3620-NC-050	3620-NC-100	3630-NC-030	3630-NC-050	3630-NC-100	3650-NC-030	3650-NC-050	3650-NC-100
HEATER	kW	36	36	36	36	36	36	36	36	36
FLOW	GPM	20	20	20	30	30	30	50	50	50
TDH	Psi	30	50	100	30	50	100	30	50	100
MOTOR	HP	1	1.5	2	1.5	2	3	2	3	5
FLA@460/3/60	Amps	47.7	48.6	49	48.6	49	50.4	49	50.4	53.2
FLA@230/3/60	Amps	95.4	97.2	98	97.2	98	100.8	98	100.8	106.4
DIMENSIONS	Height	73"	73"	73"	73"	73"	73"	73"	73"	73"
	Width	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Length	48"	48"	48"	48"	48"	48"	48"	48"	48"

Model#	1SSOT	4820-NC-030	4820-NC-050	4820-NC-100	4830-NC-030	4830-NC-050	4830-NC-100	4850-NC-030	4850-NC-050	4850-NC-100
HEATER	kW	48	48	48	48	48	48	48	48	48
FLOW	GPM	20	20	20	30	30	30	50	50	50
TDH	Psi	30	50	100	30	50	100	30	50	100
MOTOR	HP	1	1.5	2	1.5	2	3	2	3	5
FLA@460/3/60	Amps	62.8	63.7	64.1	63.7	64.1	65.5	64.1	65.5	68.3
FLA@230/3/60	Amps	125.6	127.4	128.2	127.4	128.2	131.0	128.2	131.0	136.6
DIMENSIONS	Height	73"	73"	73"	73"	73"	73"	73"	73"	73"
	Width	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Length	48"	48"	48"	48"	48"	48"	48"	48"	48"

## Standard Options

- Side Stream Cooling, Water Cooling 5 sq. ft
- Main Stream Cooling, Water Cooling 5 sq. ft
- Solid State Relays
- Isolation Valves
- RS-485 Digital Communications
- Upgrade to 600°F Maximum Temperature
- Dual Zone
- Hose Kit
- Retransmission/Remote Set Point
- Hoffman NEMA 12 enclosure



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# 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 -85° to 200°C. The heart of the Director is a PLC control system. The PLC includes a graphic Class 1, Div II 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 -85°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 200°C to -40°C with single compressor modules and -85°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

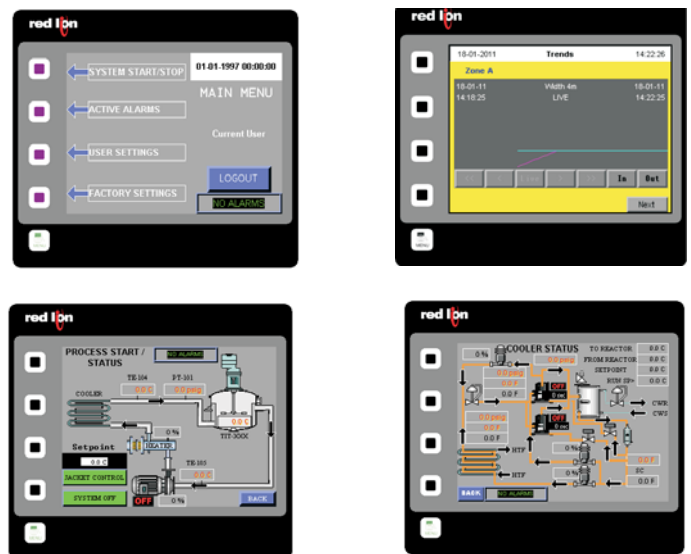
process  
**TEMPERATURE**  
control

# Director Series Temperature Control System

Model	Heater (kW)	***Net Cooling Capacity, kW @ °C								Pump GPM / PSI	Dimensions Cabinet # - W(in) x D(in) x H(in)	FLA 460/3/60	10°C Cond. Water
		200	20	0	-20	-40	-60	-80	-85				
DSFW-0202-C-FCB-S1(425W)	2	10.15	10.15	6.05	2.45	0.75	-	-	-	14 / 25	23.5X32.25X60	10.4	5.9
DSFW-2.504-C-FCB-S1(430W)	4	12.85	12.85	7.65	3.45	1.05	-	-	-	14 / 25	23.5X32.25X60	13.6	12
DSFW-3.506-C-FCB-S1(510W)	6	14.85	14.85	11.35	5.05	1.65	-	-	-	14 / 25	23.5X32.25X60	18	12
DSFW-0506-C-FCB-S1(520W)	6	25.85	25.85	16.55	7.15	2.75	-	-	-	14 / 25	23.5X32.25X60	20.3	12
DSFW-0606-C-FCB-S1(610W)	6	31.35	31.35	18.75	8.75	3.15	-	-	-	14 / 25	29.5X44.25X60	20	18
DSFW-0612-C-FCB-S1(615W)	12	31.35	31.35	18.75	8.75	3.15	-	-	-	14 / 25	29.5X44.25X60	27.5	18
DSFW-7.512-C-FCB-S1(620W)	12	35.45	35.45	23.95	10.55	3.85	-	-	-	14 / 25	29.5X44.25X60	33.3	18
DSFW-1012-C-FCB-S1(625W)	12	36.65	36.65	29.65	14.55	5.35	-	-	-	14 / 25	29.5X44.25X60	38.7	24
DSFW-1324-C-FCB-S1(630W)	24	44.25	44.25	36.95	17.75	6.85	-	-	-	14 / 25	37.88X44.25X65	54.9	24
DSFW-1524-C-FCB-S1(635W)	24	60.05	60.05	43.95	21.55	8.55	-	-	-	14 / 25	37.88X44.25X65	59.6	24
DSFW-2030-C-FCB-S2(640W)	30	71.1	71.1	57.1	26.9	8.5	-	-	-	40 / 28	37.88X52.63X65	88.8	30 or 36
DSFW-2636-C-FCB-S2(645W)	36	86.3	86.3	71.7	33.3	11.5	-	-	-	40 / 28	47.2X72.0X72.0	98.6	30 or 36
DSFW-3048-C-FCB-S2(650W)	48	117.9	117.9	85.7	40.9	14.9	-	-	-	40 / 28	47.2X72.0X72.0	123	30 or 36
DSFW-6096-C-FCB-S4(680W)	96	239.1	239.1	174.7	85.1	33.1	-	-	-	40 / 28	78.7X177.2X78.7	234	60
DSFW-5.502-C-FCB-S2(815W)	2	15.15	15.15	11.65	5.35	7.15	3.66	1.45	1.08	7/15	23.5X32.25X60	16.1	9
DSFW-7.503-C-FCB-S2(825W)	3	16.85	16.85	16.85	7.45	8.19	4.05	1.56	1.17	7/15	23.5X32.25X60	19.6	22
DSFW-9.503-C-FCB-S2(830W)	3	19.05	19.05	19.05	9.05	10.76	5.41	2.15	1.62	7/15	29.5X44.25X60	21.2	26
DSFW-1106-C-FCB-S2(910W)	6	35.75	35.75	24.25	10.85	11.55	5.73	2.26	1.73	7/15	29.5X44.25X60	27.7	30
DSFW-1512-C-FCB-S2(920W)	12	36.65	36.65	29.65	14.55	16.27	7.9	3	2.2	14 / 25	37.88X52.63X65	47.3	52
DSFW-22.512-C-FCB-S2(925W)	12	60.05	60.05	43.95	21.55	23.45	11.67	4.59	3.56	14 / 25	37.88X52.63X65	0	0
DSFW-3024-C-FCB-S3(930W)	24	57.1	57.1	57.1	26.9	28.7	13.22	3.69	2.11	14 / 25	37.88X52.63X65	0	0
DSFW-4536-C-FCB-S3(950W)	36	85.7	85.7	85.7	40.9	44.7	20.92	6.87	4.61	40 / 28	51.2X103.5X76.0	0	0



## PC Control, Data Logging & Trending Screens



## Fluid Temperature Ranges

	200°C	180°C	150°C	100°C	50°C	0°C	-20°C	-40°C	-80°C	
HTF (High)										
HTF (Medium)										
HTF (low)										

HTF= HEAT TRANSFER FLUID, PSF-POLYDIMETHYSILOXANES



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# Intensive Mixer Dust Stop Seal Oil Recovery System



## Intensive Mixer Dust Stop Seal Oil Recovery System

The dust stop seal oil recovery system keeps your rubber mixing area clean and saves money by recovering and reusing dust stop seal oil that drains from your rubber intensive mixer. A hopper built into the recovery system collects dust stop seal oil. The dust stop seal oil is filtered and pumped back to the intensive mixer for re-use. The hopper, pump, valves, and pipe are heated to keep the oil fluid and pump able. Automatic controls pump the recovered oil back to the mixer or recirculate it within the recovery system for later use.

- Eliminate hazardous waste disposal costs
- Improve productivity
- Automate dust stop seal oil recovery and re-use.

engineering  
**PRECISION**

## **EXCELLENT RETURN ON INVESTMENT**

- Each Budzar unit is designed to maximize the productivity of your process. Budzar quality and reliability provide excellent value for each dollar invested.
- Reliable process control improves process consistency, reduces scrap, speeds start-up and increases production rates

## **LOW-COST, SIMPLE OPERATION AND MAINTENANCE**

- Programmable controls with communications to your DCS or operate as a slave to your DCS.
- Stainless Steel Construction with a variable speed pump
- All valves are single-acting pneumatic type with spring return for quickness of operation and reliability
- Eliminate hazardous waste disposal costs
- Improve productivity
- Automate dust stop seal oil recovery and re-use
- Each Budzar unit is constructed with non-proprietary parts.

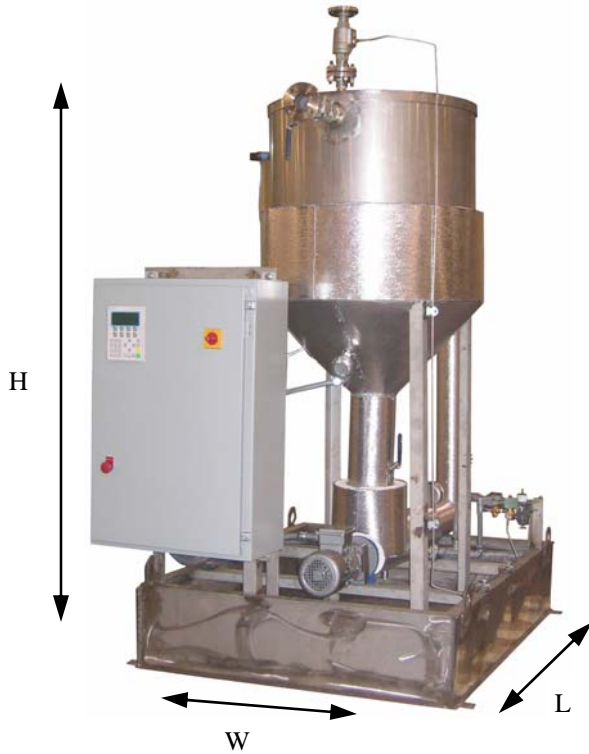
## **QUICK AND EASY INSTALLATION**

- Completely factory-assembled pump decks on a common skid.
- All units are factory tested prior to shipment.



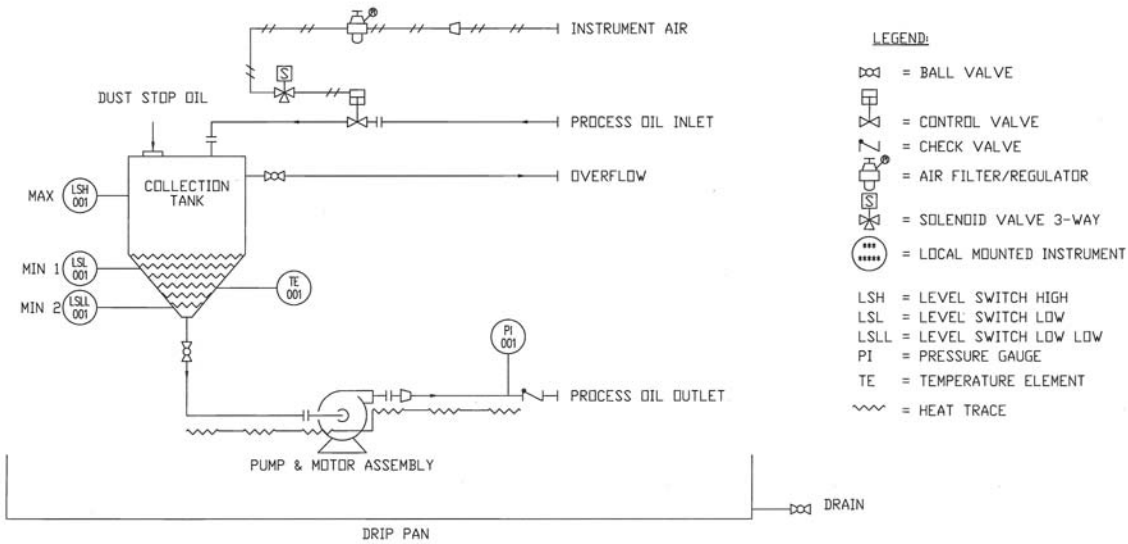
process  
**TEMPERATURE**  
control

# Intensive Mixer Dust Stop Seal Oil Recovery System



## Intensive Mixer Dust Stop Seal Oil Recovery System

- Eliminate hazardous waste disposal costs
- Improve productivity
- Automate dust stop seal oil recovery and re-use.



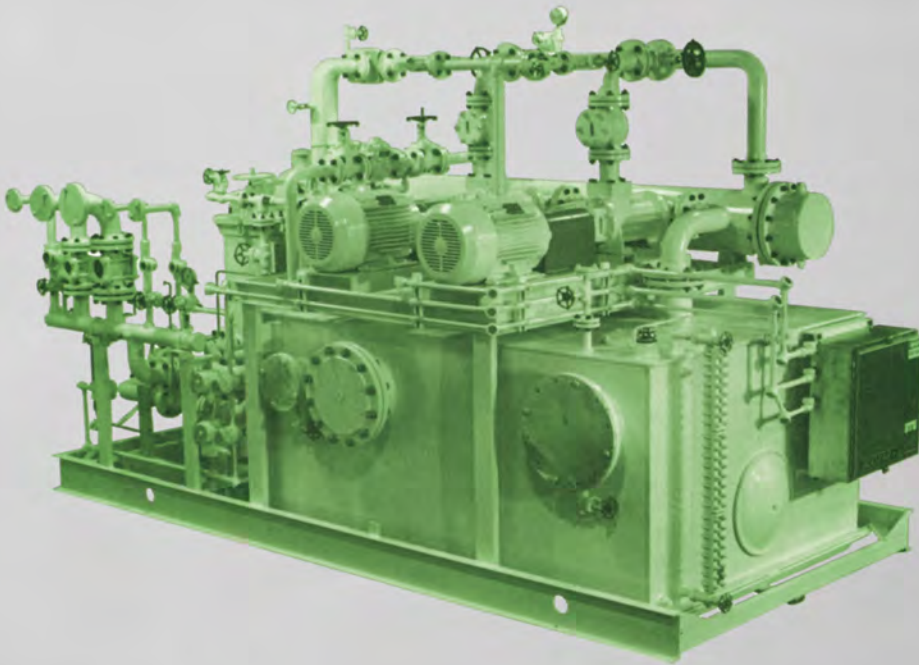
## Intensive Mixer Dust Stop Seal Oil Recovery System

Model	Oils	Hopper Weigh Capacity (Gallons)	Pump Rate (GPM)	Maximum Delivery Pressure (PSI)	(Dimensions) (W x L x H)	Shipping Weight (lbs)	FLA @ 460V
ORS-100	1	100	2.6	14.5	48" x 70" x 87"	1,300	16 Amps



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# LUBRICATING OIL SYSTEM



BTU LOS Series Lubricating Oil Systems provide up to six independent zones, each with its own controls, pumps, heaters, and cooling modes. Independent control maximizes production by operating each at independent set points. The LOS Series is available for use with plant steam or electricity as the heat source.

The LOS Series is available in both air cooled or water cooled operation. This series is designed for outdoor installation and operating oil temperatures up to 200°F.

Budzar also designs and manufactures specialized equipment for non-standard applications. Our engineers have extensive experience in process cooling and heating applications for such industries as: rubber, paper, plastics, chemical, food, and utility industries. We take the time to understand your current and future needs and design a solution targeted at high quality and fast payback.

## EXCELLENT RETURN ON INVESTMENT

- Each Budzar unit is designed to maximize the productivity of your process. Budzar quality and reliability provide excellent value for each dollar invested.
- Reliable process control improves process consistency, speeds start-up, and increases production rates.

## LOW-COST, SIMPLE OPERATION AND MAINTENANCE

- Pressure, temperature and flow controls provide reliable, accurate operation
- Easy-to-access components allow quick servicing.
- "At-a-glance" indicator lights display important operating conditions.
- Available in steel or stainless steel welded construction.
- System and operator are protected by pressure, temperature alarms relief valve.
- All electrical components are housed in a NEMA 4 enclosure with through-the-door disconnect for safe operation.
- Components isolated from contact with oil for easy maintenance.

## QUICK AND EASY INSTALLATION

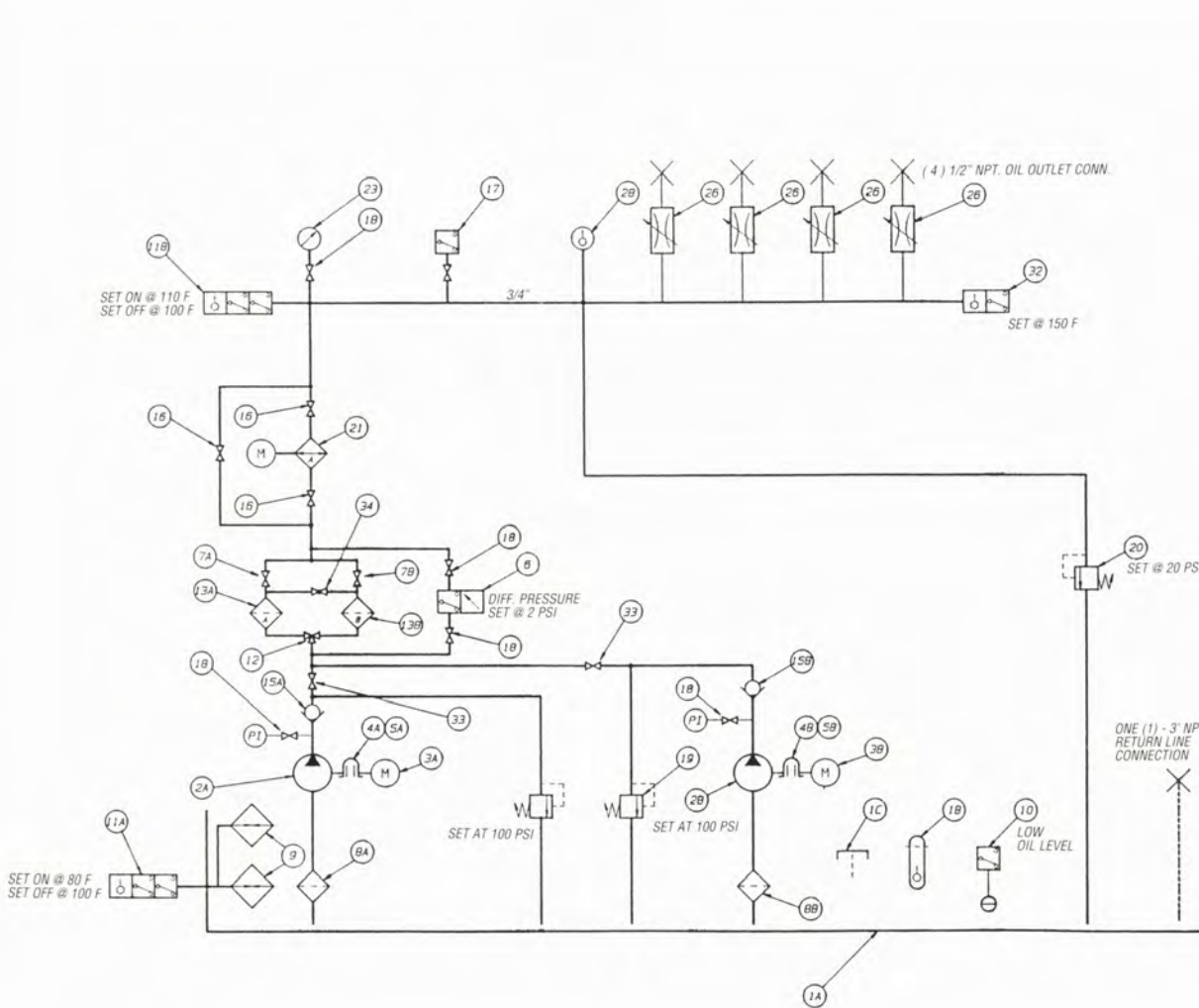
- Single-point connections for all utilities.
- All units are factory tested prior to shipment.

# BUDZAR

**ENGINEERING THE FUTURE FOR THE PROCESS INDUSTRIES**  
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# LUBRICATING OIL SYSTEM



- 1A. Reservoir
- 1B. Sight Gauge w/ Thermometer
- 1C. Filler Breather
- 2A. & 2B. Pumps
- 3A. & 3B. Motor
- 4A. & 4B. Couplings
- 5A. & 5B. Pump/Motor Mounting Bracket
- 6. Differential Pressure Switch
- 7A. & 7B. Isolation Valves
- 8A. & 8B. Suction Filters
- 9. Electric Heater
- 10. Level Switch
- 11A. & 11B. Temperature Switch
- 12A. & 12B. 3-Way Ball Valve
- 13A. & 13B. Filter
- 15A. & 15B. Check Valves
- 16A., B., C. Ball Valve
- 17. Pressure Switch
- 18. Shut-Off Valves
- 19. & 20. Relief Valve
- 21. Oil Cooler
- 23. Pressure Gauge
- 26. Flow Control Valve
- 28. Thermometer
- 32. Temperature Switch
- 33. Block Valve
- 34. Needle Valve

## DUPLEX CIRCULATING OIL SYSTEM Consult factory for larger sizes to 300 GPM

SIZE	FLOW RATE GPM	LINE SIZE-NOMINAL (Based on 10FPS)	PUMP/MOTOR HP	COOLER MOTOR HP				HEAT REMOVAL BTU/HR.	HEATER KW	RESERVOIR SIZE GALS.	Outlet Line Size-NPT	Return Line Size-NPT
				115w	1/4"	1/2"	3/4"					
1	1-5	1/2"	1	115V	115V	230/460V	230/460V	9870	3	40	3/8	1 1/2"
2	12	3/4"	2					23100	3	40	3/8	1 1/2"
3	20	1"	3					37800	3	80	1/2	2
4	30	1 1/2"	5					52500	3	150	3/4	2

NOTE: Consult factory for detailed engineering information.

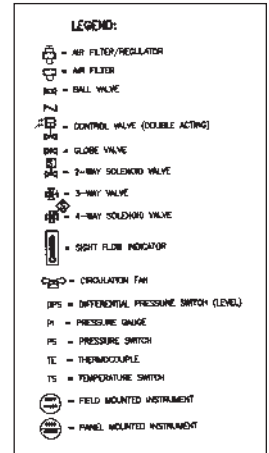
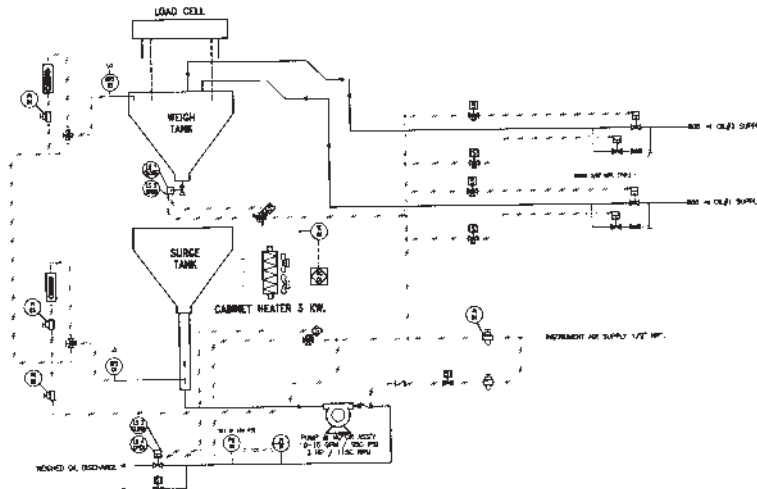
# BUDZAR INDUSTRIES



# MIXER OIL WEIGH SYSTEMS & DAY TANKS



Model OWS-4 shown complete with optional remote control panel



Typical OWS-4 Schematic

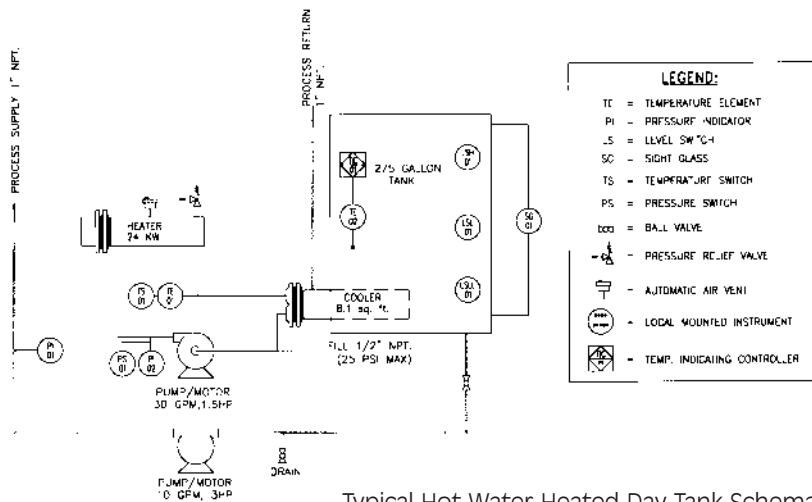
Model	Oils	Hopper Weigh Capacity (Gallons)	Pump Rate (GPM)	Maximum Delivery Pressure (PSI)	Dimensions (W x L x H)	Shipping Weight (lbs.)	FLA @ 460V <sup>4</sup>
OWS-1	1-16	1	5	250	24"x42"x72"	1000 <sup>1</sup>	4
OWS-2	1-16	6	10	250	36"x60"x72"	1200 <sup>2</sup>	6
OWS-3	1-16	13	15	250	36"x60"x72"	1200 <sup>2</sup>	8
OWS-4	1-16	18	20	250	36"x60"x90"	1400 <sup>3</sup>	8
OWS-5	1-16	33	30	250	36"x60"x90"	1600 <sup>3</sup>	12

<sup>1</sup> Add 35 lbs for each oil feed

<sup>2</sup> Add 50 lbs for each oil feed

<sup>3</sup> Add 75 lbs for each oil feed

<sup>4</sup> Add 7 amps to FLA for electric heated units



Typical Hot Water Heated Day Tank Schematic



Model	Tank Size (Gallons)	Heater Size (Kw)	Pump Rate (GPM)	Dimensions (W x L x H)	Shipping Weight (lbs.)	FLA @ 460V
TK1-250	250	24	5-30	48"x90"x60"	3000	45
TK2-500	500	48	5-30	48"x90"x90"	4500	75



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# OIL WEIGH SYSTEMS

## AUTOMATIC OIL WEIGH SCALES AND DAY TANK SYSTEMS



### MWS Series Mixer Oil Weigh Systems

BTU MWS Series Mixer Oil Systems automatically meter up to sixteen different process oils to rubber batch mixers with high speed and accuracy to ensure uniform batch characteristics, speed cycle times, and reduce scrap. The MWS Series combines design simplicity with extremely reliable components, making them simple to install, operate, and maintain.

The MWS System is enclosed to withstand demanding mixing-room atmospheres and prevent contamination. The enclosure can be heated with steam or electricity to maintain proper oil temperature and accurate flow. Control can be provided by an on-board, fully programmable, weigh controller or by your distributed master batch control system.

Budzar Day Tanks are available in a range of sizes and options. Options include delivery pump flow rate and pressure, heating, insulation, and level controls. The Day Tank System controls are designed to be integrated with the Weigh System controls.

Budzar designs and manufactures standard and specialized equipment for the rubber processing industry. Our engineers have extensive experience in process control. We take the time to understand your current and future needs and design a solution targeted at high quality and fast payback.



ENGINEERING THE FUTURE FOR THE RUBBER PROCESS INDUSTRY

engineering  
**PRECISION**

### EXCELLENT RETURN ON INVESTMENT

- Each Budzar unit is designed to maximize the productivity of your process. Budzar quality and reliability provide excellent value for each dollar invested.
- Reliable process control improves process consistency, reduces scrap, speeds start-up, and increases production rates.

### LOW-COST, SIMPLE OPERATION AND MAINTENANCE

- Programmable controls with communications to your DCS or operate as a slave to your DCS.
- A combination of fast and slow-speed feed valves provide fast cycle times by delivering most of the oil at high speed. The system then automatically switches to the slow speed valve to top off the weighment to the mixer.
- All valves are single-acting pneumatic type with spring return for quickness of operation and reliability.
- The dust tight hopper enclosure prevents process oil contamination.
- The weigh scale is temperature and vibration isolated for precise measurement.
- Positive displacement pump and motor assembly for high pressure output.

### QUICK AND EASY INSTALLATION

- Single-point connections for all utilities.
- All units are factory tested prior to shipment.



process  
**TEMPERATURE**  
control

# Intensive Mixer Dust Stop Seal Oil Recovery System



## Intensive Mixer Dust Stop Seal Oil Recovery System

The dust stop seal oil recovery system keeps your rubber mixing area clean and saves money by recovering and reusing dust stop seal oil that drains from your rubber intensive mixer. A hopper built into the recovery system collects dust stop seal oil. The dust stop seal oil is filtered and pumped back to the intensive mixer for re-use. The hopper, pump, valves, and pipe are heated to keep the oil fluid and pump able. Automatic controls pump the recovered oil back to the mixer or recirculate it within the recovery system for later use.

- Eliminate hazardous waste disposal costs
- Improve productivity
- Automate dust stop seal oil recovery and re-use.

engineering  
**PRECISION**

## **EXCELLENT RETURN ON INVESTMENT**

- Each Budzar unit is designed to maximize the productivity of your process. Budzar quality and reliability provide excellent value for each dollar invested.
- Reliable process control improves process consistency, reduces scrap, speeds start-up and increases production rates

## **LOW-COST, SIMPLE OPERATION AND MAINTENANCE**

- Programmable controls with communications to your DCS or operate as a slave to your DCS.
- Stainless Steel Construction with a variable speed pump
- All valves are single-acting pneumatic type with spring return for quickness of operation and reliability
- Eliminate hazardous waste disposal costs
- Improve productivity
- Automate dust stop seal oil recovery and re-use
- Each Budzar unit is constructed with non-proprietary parts.

## **QUICK AND EASY INSTALLATION**

- Completely factory-assembled pump decks on a common skid.
- All units are factory tested prior to shipment.



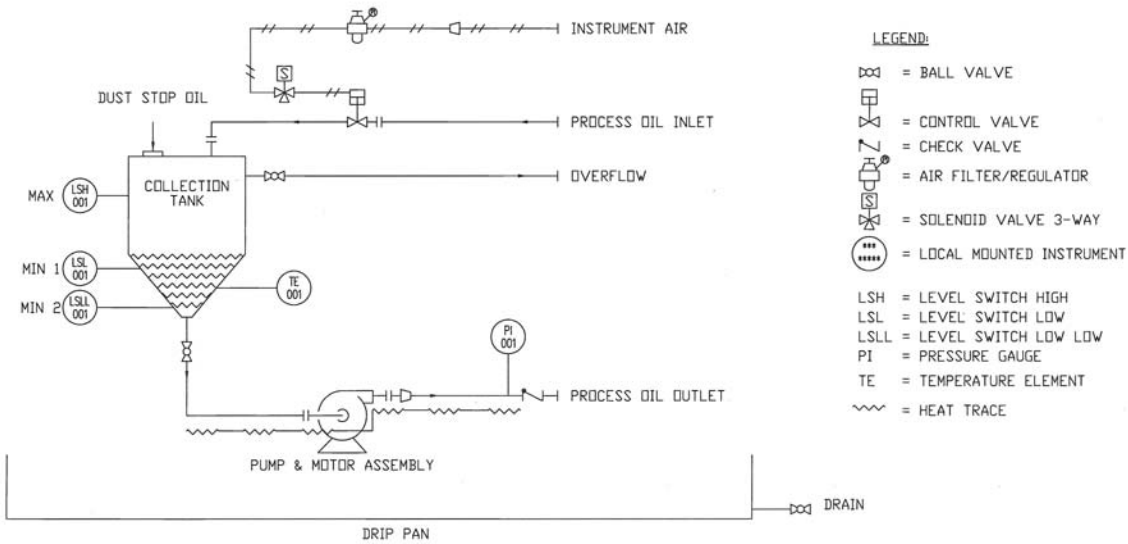
process  
**TEMPERATURE**  
control

# Intensive Mixer Dust Stop Seal Oil Recovery System



## Intensive Mixer Dust Stop Seal Oil Recovery System

- Eliminate hazardous waste disposal costs
- Improve productivity
- Automate dust stop seal oil recovery and re-use.



## Intensive Mixer Dust Stop Seal Oil Recovery System

Model	Oils	Hopper Weigh Capacity (Gallons)	Pump Rate (GPM)	Maximum Delivery Pressure (PSI)	(Dimensions) (W x L x H)	Shipping Weight (lbs)	FLA @ 460V
ORS-100	1	100	2.6	14.5	48" x 70" x 87"	1,300	16 Amps



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# PORTABLE SILVER SERIES HOT OIL

FOR OPERATING TEMPERATURE UP TO 600°F



Budzar Industries has over 30 years of experience engineering and building hot oil systems. Budzar engineers are experts at ensuring hot oil systems are accurate, leak-free and safe.

The Silver Series with its maximum operating temperature of 600°F shares the same engineering principles as Budzar's high temperature oil systems. With simple and easy to understand controls and a premium on operator safety, the Silver Series will stand the test of time.



## engineering PRECISION

- Welded pipe construction eliminates leaks
- Compact, space saving design
- Carbon steel powder coated sheet metal cabinet with lift off panel for maintenance access—no sheet metal screws to remove
- Ultra low heater watt density prevents “coking” and extends useful life of oil
- Y-strainer on pump suction line
- Internal by-pass valve maintains proper flow across the heater regardless of the pressure drop through your process
- Automatic air and water vapor purging system simplifies start-up and prevents pump cavitation
- Heater case design eliminates air pockets that can damage the heater element
- Heater center core baffles increase oil velocity and prevent damage to the oil
- Positive displacement pump with TEFC motor
- High temperature mechanical pump seal prevents leaks
- Reversible pump/evacuation
- Low pressure safety switch for protection against running without proper fill
- Non-proprietary PID microprocessor controller operator's digital display
- Motor starter with solid state overload protection
- Non-fused lockable rotary disconnect
- Separate process and set point temperature displays
- Full lighted status display provides complete diagnostics for the system
- High level alarm
- Audible alarm

### OPTIONS

- UL Listed panel
- Electrically actuated automatic cooling control without system temperature spikes or cooling water flashing
- Integral 5 ft<sup>2</sup> Stainless steel cooling bundle provides smooth cooling profiles without flashing at high operating temperatures



# PORTABLE SILVER SERIES HOT OIL

Model#	1SSOT	1220-NC-030	1220-NC-050	1220-NC-100	1230-NC-030	1230-NC-050	1230-NC-100	1250-NC-030	1250-NC-050	1250-NC-100
HEATER	kW	12	12	12	12	12	12	12	12	12
FLOW	GPM	20	20	20	30	30	30	50	50	50
TDH	Psi	30	50	100	30	50	100	30	50	100
MOTOR	HP	1	1.5	2	1.5	2	3	2	3	5
FLA@460/3/60	Amps	17.4	18.3	18.7	18.3	18.7	20.1	18.7	20.1	22.9
FLA@230/3/60	Amps	34.8	36.6	37.4	36.6	37.4	40.2	37.4	40.2	45.8
DIMENSIONS	Height	49"	49"	49"	49"	49"	49"	49"	49"	49"
	Width	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Length	48"	48"	48"	48"	48"	48"	48"	48"	48"

Model#	1SSOT	2420-NC-030	2420-NC-050	2420-NC-100	2430-NC-030	2430-NC-050	2430-NC-100	2450-NC-030	2450-NC-050	2450-NC-100
HEATER	kW	24	24	24	24	24	24	24	24	24
FLOW	GPM	20	20	20	30	30	30	50	50	50
TDH	Psi	30	50	100	30	50	100	30	50	100
MOTOR	HP	1	1.5	2	1.5	2	3	2	3	5
FLA@460/3/60	Amps	32.4	33.3	33.7	33.3	33.7	35.1	33.7	35.1	37.9
FLA@230/3/60	Amps	64.9	66.7	67.5	66.7	67.5	70.3	67.5	70.3	75.9
DIMENSIONS	Height	49"	49"	49"	49"	49"	49"	49"	49"	49"
	Width	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Length	48"	48"	48"	48"	48"	48"	48"	48"	48"

Model#	1SSOT	3620-NC-030	3620-NC-050	3620-NC-100	3630-NC-030	3630-NC-050	3630-NC-100	3650-NC-030	3650-NC-050	3650-NC-100
HEATER	kW	36	36	36	36	36	36	36	36	36
FLOW	GPM	20	20	20	30	30	30	50	50	50
TDH	Psi	30	50	100	30	50	100	30	50	100
MOTOR	HP	1	1.5	2	1.5	2	3	2	3	5
FLA@460/3/60	Amps	47.7	48.6	49	48.6	49	50.4	49	50.4	53.2
FLA@230/3/60	Amps	95.4	97.2	98	97.2	98	100.8	98	100.8	106.4
DIMENSIONS	Height	73"	73"	73"	73"	73"	73"	73"	73"	73"
	Width	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Length	48"	48"	48"	48"	48"	48"	48"	48"	48"

Model#	1SSOT	4820-NC-030	4820-NC-050	4820-NC-100	4830-NC-030	4830-NC-050	4830-NC-100	4850-NC-030	4850-NC-050	4850-NC-100
HEATER	kW	48	48	48	48	48	48	48	48	48
FLOW	GPM	20	20	20	30	30	30	50	50	50
TDH	Psi	30	50	100	30	50	100	30	50	100
MOTOR	HP	1	1.5	2	1.5	2	3	2	3	5
FLA@460/3/60	Amps	62.8	63.7	64.1	63.7	64.1	65.5	64.1	65.5	68.3
FLA@230/3/60	Amps	125.6	127.4	128.2	127.4	128.2	131.0	128.2	131.0	136.6
DIMENSIONS	Height	73"	73"	73"	73"	73"	73"	73"	73"	73"
	Width	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Length	48"	48"	48"	48"	48"	48"	48"	48"	48"

## Standard Options

- Side Stream Cooling, Water Cooling 5 sq. ft
- Main Stream Cooling, Water Cooling 5 sq. ft
- Solid State Relays
- Isolation Valves
- RS-485 Digital Communications
- Upgrade to 600°F Maximum Temperature
- Dual Zone
- Hose Kit
- Retransmission/Remote Set Point
- Hoffman NEMA 12 enclosure



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# Take advantage of your next planned power shutdown

## With Budzar Industries Lube Oil Cooling System

### Features Include:

Dual Plate Frame Exchanger with Stainless Steel Plates and Flange Connections

Dual Basket Strainer on Cooling Water Inlet filters out particles

Total Heat Transfer of 23,000,000 BTU/HR

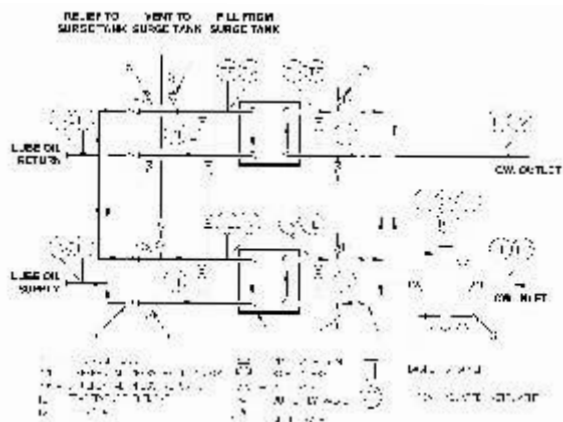
Design Temperature Range of 40 - 230°F

Operating Temperature of 145°F

Maximum Design Pressure 150 Psi

Mobil DTE 797 Oil

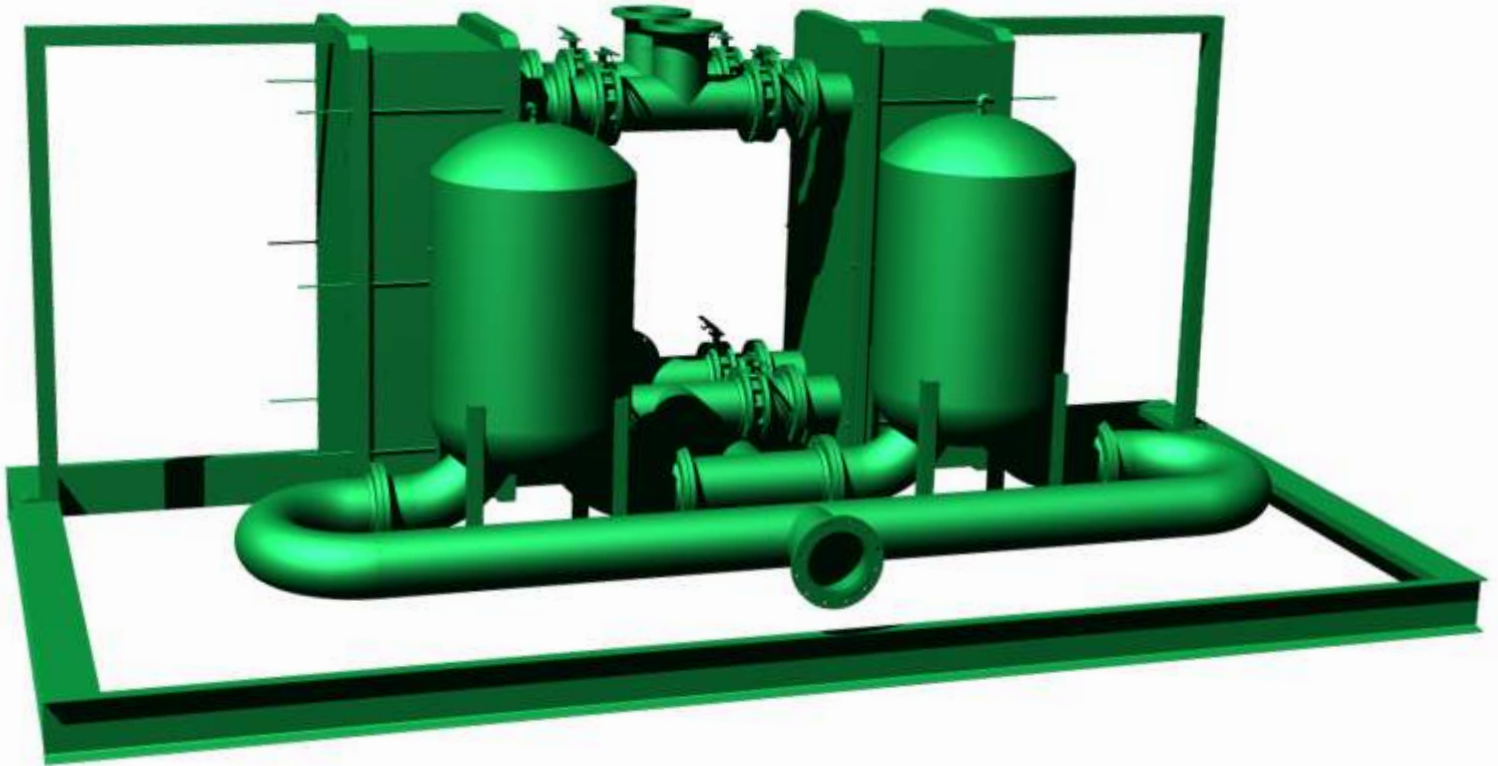
150# Relief Valves at Inlet and Outlet of Lube Oil and Cooling Water Side



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# Use Your Next Power Shutdown to Replace Your Lube Oil System



The Budzar Industries Lube Oil Cooling System for Nuclear Power Plants has a total heat transfer of 23,000,000 btu/hr and a temperature range of 40 - 230°F. The Dual Plate and Frame exchanger features stainless steel plates, carbon steel fittings and 12" connections capable of handling 150 pounds of pressure.

The hot side of each exchanger is capable of handling 1,600 gpm (a total of 3,200) of Mobil DTE 797 Oil with an inlet temperature of 145°F and an outlet temperature of 110°F with less than 10PSI pressure drop while the cooling side handles 3,500 gpm per exchanger for a total of 7,000 gpm with an inlet temperature of 95°F and an outlet temperature of 110°F

The system utilizes a Carbon Steel Dual Basket Strainer containing #10 mesh filter bags which filter out cooling water particles prior to reaching the exchanger. The strainer also has Nitril Rubber Gaskets, Differential Pressure Gauges and Switches.

Budzar Industries has specialized in process fluid heat transfer systems since 1975. As a result, Budzar has earned a global reputation for quality and ingenuity in the design, engineering, and manufacturing of temperature control systems. Just look around. You will find Budzar systems in action throughout the world, delivering accurate temperature measurement and control to the production of chemicals, petroleum, plastics, rubber, paper, power, steel, food, and pharmaceuticals.

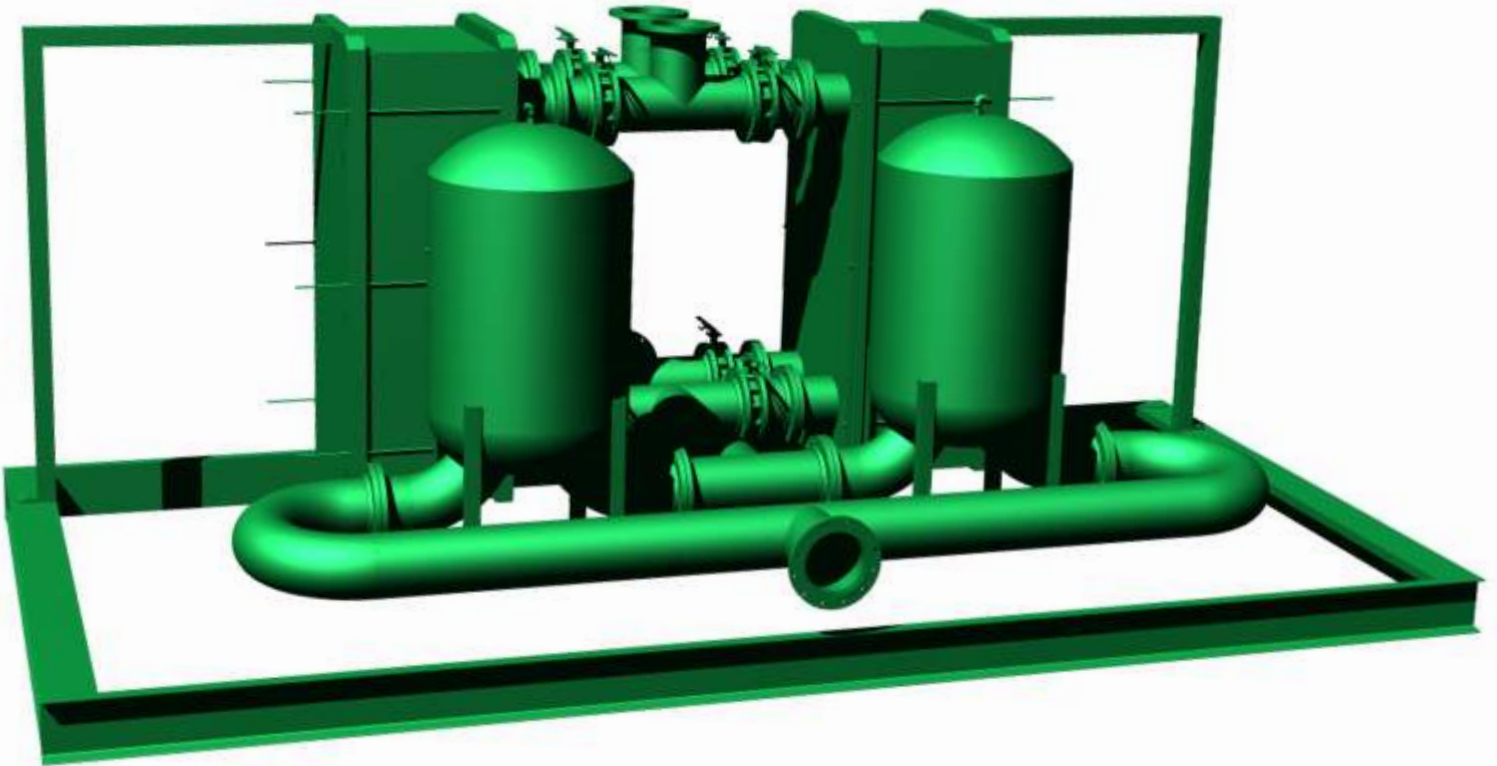
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[sales@Budzar.com](mailto:sales@Budzar.com)





# When Planning Your Power Shut Down...

- Total Heat Transfer of 23,000,000 BTU/HR
- Temperature Range of 40 - 230°F with Operating Temperature of 145°F with Maximum Pressure of 150 Psi
- Mobil DTE 797 Oil
- Dual Stainless Steel Plate Frame Exchanger with 12 150# Flange Connections
- Dual Basket Strainer on Cooling Water Inlet filters out particles
- 
- 150# Relief Valves at Inlet and Outlet of Lube Oil and Cooling Water Side



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## Shini USA High Temperature Portable Hot Oil Units

For over 40 years Shini Plastic Technologies has been one of the worlds leaders specializing in the engineering and manufacturing of auxiliary equipment for the plastics industry. . At Shini USA, Division of Budzar Industries, we incorporate local engineering, design and service support to provide maximum value and quality.

The 550°F Portable High Temperature Hot Oil unit with a Magnetic Drive Pump features a seal-less pump design that utilizes a magnetic coupling to create a shaft seal. The magnetic force aligns the outer magnet and the inner magnet creating a leak-free seal. Other features include easy to use microprocessor controller to monitor the process temperature throughout the heating/cooling process.



**"Seal-less" Magnetic Drive Pump**

Features include:

- Maximum operating temperature of 550°F
- Omron PID, Dual Digital Readout Controller
- Equipped with a SPECK Magnetic-Drive "Seal-Less" Pump
- Y-Strainer
- Cooling via Shell & Tube Exchanger "Closed Loop"
- Automatic Solenoid Cooling Control Valve
- Three Phase Motor Overload and Phase Protection
- Start/Stop Push Buttons
- Rotary Disconnect
- Audible Alarm including Low Level, Over Temperature and Pump Overload
- Safety and Diagnostic Control Panel
- Factory tested prior to shipment

# PORTABLE SILVER SERIES HOT OIL

FOR OPERATING TEMPERATURE UP TO 600°F



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## engineering PRECISION

- Welded pipe construction eliminates leaks
- Compact, space saving design
- Carbon steel powder coated sheet metal cabinet with lift off panel for maintenance access—no sheet metal screws to remove
- Ultra low heater watt density prevents “coking” and extends useful life of oil
- Y-strainer on pump suction line
- Internal by-pass valve maintains proper flow across the heater regardless of the pressure drop through your process
- Automatic air and water vapor purging system simplifies start-up and prevents pump cavitation
- Heater case design eliminates air pockets that can damage the heater element
- Heater center core baffles increase oil velocity and prevent damage to the oil
- Positive displacement pump with TEFC motor
- High temperature mechanical pump seal prevents leaks
- Reversible pump/evacuation
- Low pressure safety switch for protection against running without proper fill
- Non-proprietary PID microprocessor controller operator's digital display
- Motor starter with solid state overload protection
- Non-fused lockable rotary disconnect
- Separate process and set point temperature displays
- Full lighted status display provides complete diagnostics for the system
- High level alarm
- Audible alarm

### OPTIONS

- UL Listed panel
- Electrically actuated automatic cooling control without system temperature spikes or cooling water flashing
- Integral 5 ft<sup>2</sup> Stainless steel cooling bundle provides smooth cooling profiles without flashing at high operating temperatures



# PORTABLE SILVER SERIES HOT OIL

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HEATER	kW	12	12	12	12	12	12	12	12	12
FLOW	GPM	20	20	20	30	30	30	50	50	50
TDH	Psi	30	50	100	30	50	100	30	50	100
MOTOR	HP	1	1.5	2	1.5	2	3	2	3	5
FLA@460/3/60	Amps	17.4	18.3	18.7	18.3	18.7	20.1	18.7	20.1	22.9
FLA@230/3/60	Amps	34.8	36.6	37.4	36.6	37.4	40.2	37.4	40.2	45.8
DIMENSIONS	Height	49"	49"	49"	49"	49"	49"	49"	49"	49"
	Width	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Length	48"	48"	48"	48"	48"	48"	48"	48"	48"

Model#	1SSOT	2420-NC-030	2420-NC-050	2420-NC-100	2430-NC-030	2430-NC-050	2430-NC-100	2450-NC-030	2450-NC-050	2450-NC-100
HEATER	kW	24	24	24	24	24	24	24	24	24
FLOW	GPM	20	20	20	30	30	30	50	50	50
TDH	Psi	30	50	100	30	50	100	30	50	100
MOTOR	HP	1	1.5	2	1.5	2	3	2	3	5
FLA@460/3/60	Amps	32.4	33.3	33.7	33.3	33.7	35.1	33.7	35.1	37.9
FLA@230/3/60	Amps	64.9	66.7	67.5	66.7	67.5	70.3	67.5	70.3	75.9
DIMENSIONS	Height	49"	49"	49"	49"	49"	49"	49"	49"	49"
	Width	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Length	48"	48"	48"	48"	48"	48"	48"	48"	48"

Model#	1SSOT	3620-NC-030	3620-NC-050	3620-NC-100	3630-NC-030	3630-NC-050	3630-NC-100	3650-NC-030	3650-NC-050	3650-NC-100
HEATER	kW	36	36	36	36	36	36	36	36	36
FLOW	GPM	20	20	20	30	30	30	50	50	50
TDH	Psi	30	50	100	30	50	100	30	50	100
MOTOR	HP	1	1.5	2	1.5	2	3	2	3	5
FLA@460/3/60	Amps	47.7	48.6	49	48.6	49	50.4	49	50.4	53.2
FLA@230/3/60	Amps	95.4	97.2	98	97.2	98	100.8	98	100.8	106.4
DIMENSIONS	Height	73"	73"	73"	73"	73"	73"	73"	73"	73"
	Width	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Length	48"	48"	48"	48"	48"	48"	48"	48"	48"

Model#	1SSOT	4820-NC-030	4820-NC-050	4820-NC-100	4830-NC-030	4830-NC-050	4830-NC-100	4850-NC-030	4850-NC-050	4850-NC-100
HEATER	kW	48	48	48	48	48	48	48	48	48
FLOW	GPM	20	20	20	30	30	30	50	50	50
TDH	Psi	30	50	100	30	50	100	30	50	100
MOTOR	HP	1	1.5	2	1.5	2	3	2	3	5
FLA@460/3/60	Amps	62.8	63.7	64.1	63.7	64.1	65.5	64.1	65.5	68.3
FLA@230/3/60	Amps	125.6	127.4	128.2	127.4	128.2	131.0	128.2	131.0	136.6
DIMENSIONS	Height	73"	73"	73"	73"	73"	73"	73"	73"	73"
	Width	28"	28"	28"	28"	28"	28"	28"	28"	28"
	Length	48"	48"	48"	48"	48"	48"	48"	48"	48"

## Standard Options

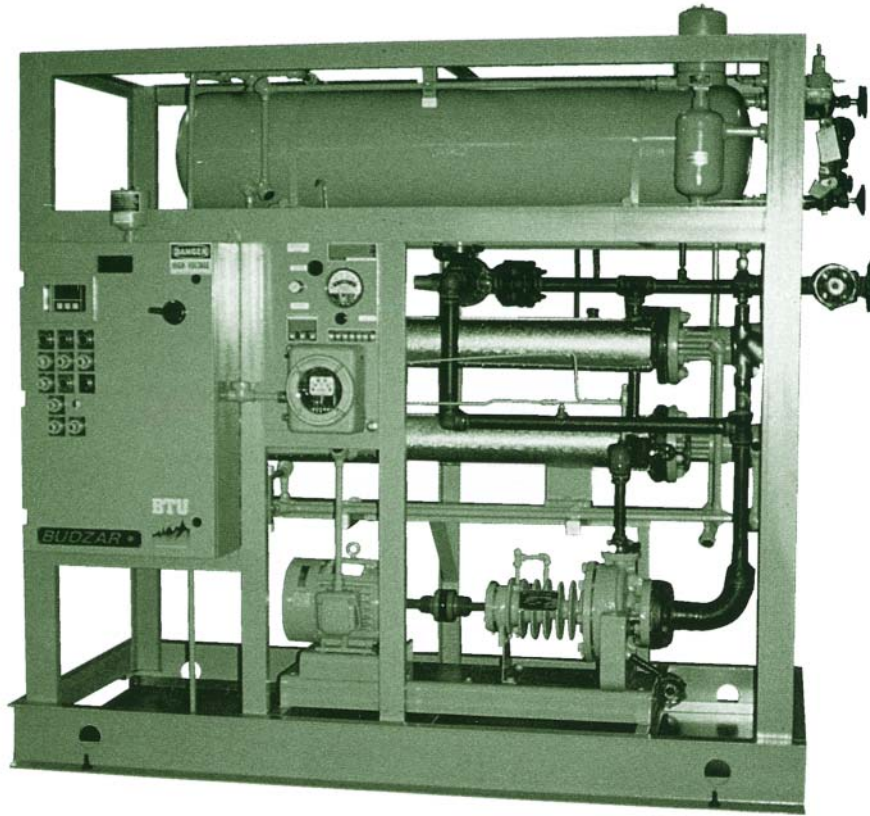
- Side Stream Cooling, Water Cooling 5 sq. ft
- Main Stream Cooling, Water Cooling 5 sq. ft
- Solid State Relays
- Isolation Valves
- RS-485 Digital Communications
- Upgrade to 600°F Maximum Temperature
- Dual Zone
- Hose Kit
- Retransmission/Remote Set Point
- Hoffman NEMA 12 enclosure



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# STATIONARY HOT OIL



## OTS Series Stationary Hot Oil Units

BTU OTS Series Hot Oil Units are ideal for those applications requiring a dedicated source of high temperature fluid in capacities beyond the capabilities of a portable model.

The OTS Series is designed for a high degree of compatibility with typical process applications and a high degree of safety. Standard units are available for industrial processes requiring fluid temperatures up to 450°F, 550°F and 650°F.

Budzar Industries also designs and manufactures specialized equipment for non-standard applications. Our engineers have extensive experience in process chilling and heating applications for such industries as: rubber, paper, plastics, chemical, food and metalworking. We take the time to understand your current and future needs and design a solution targeted at high quality and fast payback.



engineering  
**PRECISION**

### EXCELLENT RETURN ON INVESTMENT

- Each Budzar unit is designed to maximize the productivity of your process. Budzar quality and reliability provide excellent value for each dollar invested
- Thermal fluid systems improve temperature uniformity, decrease cure time and increase the output of your process

### LOW-COST, SIMPLE OPERATION AND MAINTENANCE

- Solid-state microprocessor-based controls provide reliable accurate operation
- High-temperature positive displacement or centrifugal pumps ensure proper flow over heating elements
- Discharge pressure gauge for indication of positive pressure
- Low pressure safety switch for protection against low oil flow
- Flanged, steel-sheath, low-watt density immersion heaters are designed for high fluid velocity
- All electrical components are housed in NEMA enclosures. Four NEMA class enclosures are available

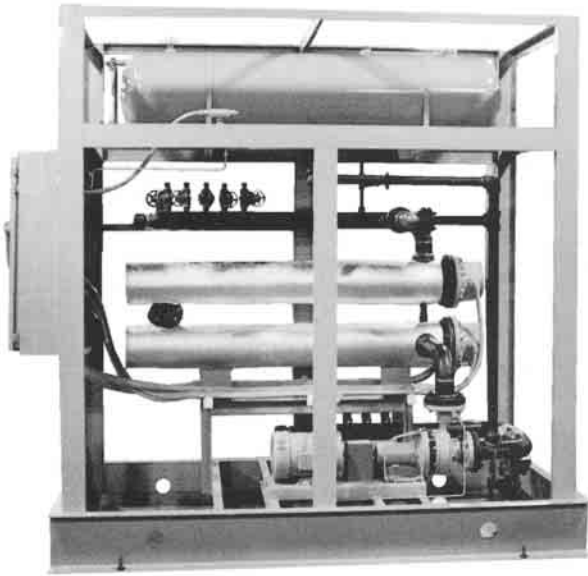
### QUICK AND EASY INSTALLATION

- Fluid and power connections are simple and straightforward
- All units are factory tested prior to shipment



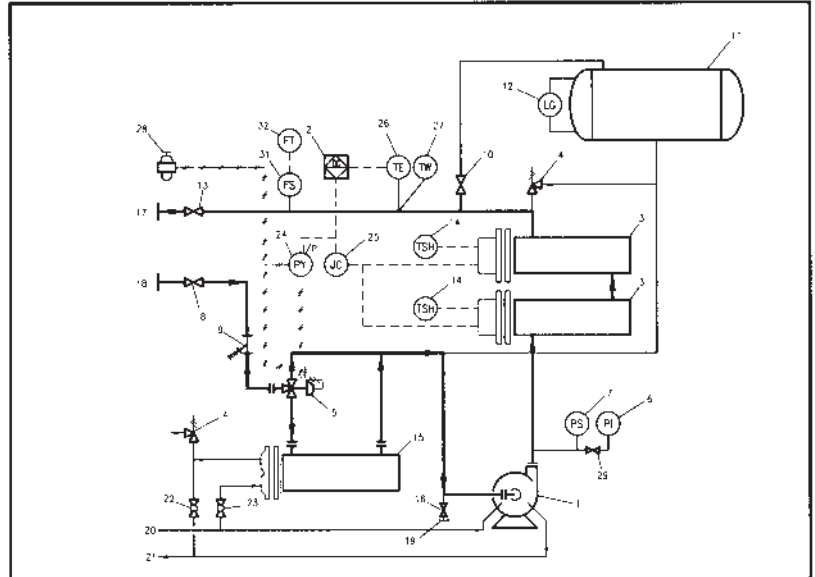
process  
**TEMPERATURE**  
control

# STATIONARY HOT OIL



Model 10T-7575-GOM with cooling option. All welded construction is standard. Unit packages self-venting heaters and insulation package. Protective sheet metal (not shown) is a standard feature.

TYPICAL HOT OIL CIRCUIT



- |                                      |                                      |   |
|--------------------------------------|--------------------------------------|---|
| 1. Pump & Motor Assembly             | 14. High Temperature Switch          | 25. SCR (Opt.)                                  |
| 2. Temperature Indicating Controller | 15. Cooler (Opt.)                    | 26. Thermocouple                                |
| 3. Electric Heater                   | 16. Drain Valve                      | 27. Thermowell                                  |
| 4. Relief Valve                      | 17. Process Supply                   | 28. Air Filter Regulator (Opt.)                 |
| 5. Control Valve (3-Way)             | 18. Process Return                   | 29. Needle Valve                                |
| 6. Pressure Gauge                    | 19. Drain                            | 30. Instrument Air Supply (Std. with Clg. Opt.) |
| 7. Pressure Switch                   | 20. Cooling Water Supply*            | 31. Flow Switch (Opt.)                          |
| 8. Return Valve                      | 21. Cooling Water Return*            | 32. Flow Transmitter (Opt.)                     |
| 9. Strainer                          | 22. Cooling Water Return Valve*      |   |
| 10. Vent Valve                       | 23. Cooling Water Supply Valve*      |   |
| 11. Oil Reservoir                    | 24. Transducer (Std. with Clg. Opt.) |   |
| 12. Sight Glass                      |                                      |   |
| 13. Supply Valve                     |                                      |   |
- \* On 450°F and 650°F Systems. 550°F Systems Use Air-Cooled Pump. Use Air-Cooled Pump. Clg. Opt.)

## OTS SERIES STATIONARY HOT OIL UNITS

Model	Heating kW	Flow GPM @ 25 PSI	HP	FLA@ 460V Electric	Cooling Sq. FT <sup>2</sup>	Approx. Dimensions (L x W x H)	Weight (LBS)
10T- 6075-GO	60	75	3	81	Optional	96" x 36" x 87"	2000
10T- 7575-GO	75	75	3	100	Optional	96" x 36" x 87"	2000
10T- 9090-GO	90	90	3	119	Optional	96" x 36" x 87"	2000
10T-120120-GO	120	120	5	159	Optional	100" x 36" x 90"	3000
10T-150150-GO	150	150	5	197	Optional	100" x 36" x 90"	3000
10T-180180-GO	180	180	7.5	238	Optional	100" x 36" x 90"	3250
10T-240240-GO	240	240	7.5	314	Optional	120" x 72" x 100"	4000
10T-300300-GO	300	300	10	392	Optional	120" x 72" x 100"	5000
10T-400400-GO	400	400	15	525	Optional	120" x 72" x 100"	6000

<sup>1</sup> All units are available for 450°F, 550°F or 650°F operation. Specify suffix "L" for 450°F, "M" for 550°F, and "H" for 650°F

<sup>2</sup> Cooling exchanges sized per application

Budzar Industries reserves the right to discontinue or change specifications without notice, consistent with sound engineering practice and current industrial standards.



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