



TIGERFLOW®

Engineered Systems to the World

HEAT TRANSFER SYSTEMS

**PREFABRICATED
& FACTORY
TESTED**



**3rd PARTY
CERTIFIED - UL/
C-UL LISTED
SYSTEMS**



**ASME SECTION 9
WELDING**

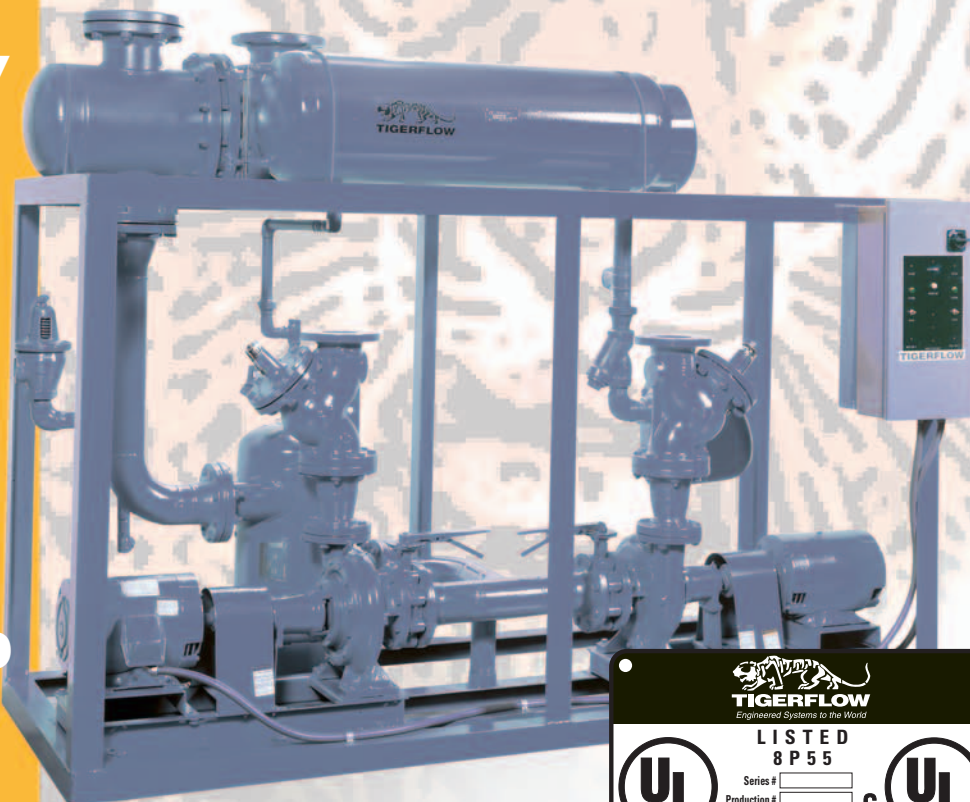
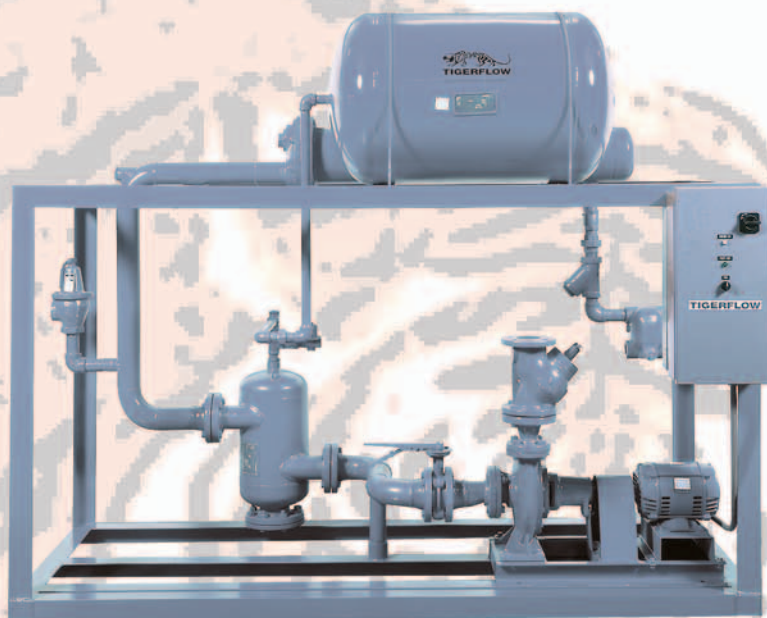
**SINGLE SOURCE
RESPONSIBILITY**

**ASME CODE
VESSELS**

**UL LABELED
POWER &
CONTROL
PANELS**

**CONSTANT &
VARIABLE SPEED
DESIGNS**




**SPACE SAVING
DESIGN**





Cost-effective engineered heat transfer systems for commercial, institutional, process and industrial applications.

 Packaged Heat Transfer Systems You Can Count On....

Standard Features

 Constant Speed
Simplex, Duplex & Triplex Models
3rd Party UL/C-UL Labeled Systems
ASME Section 9 Certified Welding
ASME Code Heat Exchangers
-Shell & Tube
-Plate & Frame
 ASME Code Expansion Tanks
-Diaphragm/Bladder
-Compression Type
Airtrol Tank Fitting
UL Labeled Power & Control Panels
Pumps & Motors
-Close Coupled
-Flexible Coupled
-In-line
ASME Code Air Separators
Air Vents
Triple Duty Valves
Pressure Reducing Valves
Relief Valves
Isolation Valves
-Butterfly
-Full Port Ball
 Factory Tested
Start-up & Field Training

Options

 Suction Diffusers
Condensate Traps
Steam Valves
-Self-operated
-Pneumatic
-Electric
 Bypass Manifold
Discharge Header
Variable Frequency Drives
Electronic Pressure & Temp. Control



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TIGERFLOW, Your expert source for engineered systems...

TIGERFLOW HEAT TRANSFER SYSTEMS provide critical advantages for system owners, designers and contractors. The complete **TIGERFLOW** system is factory built, tested and UL/C-UL third-party certified before shipment. That means the unit arrives on site meeting and/or exceeding all relevant industry standards, in addition to site performance specifications. Liability and performance risks are eliminated. System designers appreciate the time savings and **TIGERFLOW** expertise built into each project. Coordinated deliveries of third party certified systems make contractor performance penalties and delays inherent in site-built/site-certified systems a thing of the past.

Our promise to you...

Your **TIGERFLOW** factory engineered system will arrive ready to go and operate reliably to the required specifications, with the simplest of site installation.

REPRESENTED BY:



DATE:

PROJECT:

ENGINEER:

REP:

**SPECIFICATION FOR
ENGINEERED HEAT TRANSFER SYSTEM
SIMPLEX, DUPLEX, TRIPLEX**

Furnish and install a **TIGERFLOW** Series HTS 8000 Model U.L./C-U.L. (Simplex) (Duplex) (Triplex) factory engineered and packaged heat transfer system. The system shall be complete, requiring only electrical and piping connections. The system shall have a rated capacity of ___ BTUH capable of (heating) (cooling) ___ GPM from ___ F to ___ F when supplied with ___ (GPM) (Pounds/hour) of (water) (steam) at ___ (Pounds) (Degrees) supplied to the (control valve) (heat exchanger inlet). (CV of control valve not to exceed ___). All components shall be factory installed and mounted in a workmanship like manner. Any items that must be dismantled before shipping from **TIGERFLOW** shall be shipped with the unit and clearly labeled as to their installation.

SYSTEM SHALL INCLUDE:

HEAT EXCHANGER(S)

Heat exchanger shall be _____ Model _____. The heat exchanger shall be of shell tube type: U-bend removable tube bundle; (water) (steam) in shell: (water) in the tubes. Shell shall be steel, tubes ___" O.D. copper, heads cast iron, tube sheet and tube supports steel. Head openings 4" and above shall be 150# ANSI flanges. Unit shall be constructed for 150 PSI design pressure at 300 F.

PUMP(S) & MOTOR(S)

Pump shall be _____, cast iron, bronze fitted, mechanical seal, end suction centrifugal pump(s) each flex coupled to a ___ HP, ___ RPM, ___ Volt, ___ Phase, ___ HZ, (ODP), (TEFC) electric motor. Each pump shall be rated for ___ GPM at ___ TDH.

The vendor shall select pump(s) to operate at design condition, with the operating point at or to the left of peak efficiency as shown on the pump performance curve. The impeller shall have the characteristics of generally decreasing head with increasing capacity from shutoff to operating point.

Pumps shall be base-mounted, single-stage, end suction design with back pull-out, capable of being serviced without disturbing piping connections.

Pumps volute shall be Class 30 cast iron with integrally-cast pedestal support. The impeller shall be cast bronze, enclosed type, dynamically balanced. keyed to the shaft and secured by a locking cap screw.

The liquid cavity of the pump shall be sealed off at the shaft by an internally-flushed mechanical seal with ceramic seal seat of at least 98% alumina oxide content, and carbon seal ring, suitable for continuous operation at 225 F. A replaceable bronze shaft sleeve shall completely cover the wetted area under the seal.

Pumps shall be rated for a minimum of 175 PSI working pressure. Casings shall have gauge ports at nozzles and vent and drain ports at top and bottom of casing.

Pump bearing housing assembly shall have heavy-duty, re-greasable ball bearings, replaceable without disturbing piping connections and have support at coupling end.

VALVES

Triple Duty Valve

Each pump discharge shall be fitted with a _____ combination balancing, non-slam check and shut-off triple duty valve.

Suction Diffusers (Optional)

Each pump suction shall be fitted with a _____ angle pattern suction diffuser complete with flow straightening vanes and start-up strainer.

Butterfly Isolation Valve

Each pump suction shall be fitted with a lug style butterfly isolation valve with 10 position handle. Valve shall be rated for minimum of 200 PSI.

Makeup & Relief Valve

Provide a _____ combination diaphragm operated pressure reducing/relief valve. Relief shall be set at _____.

AIR SEPARATOR

Provide a _____, type R, 125# ASME stamped tangential air separator complete with an internal stainless steel air collector tube and stainless steel strainer basket

CONVENTIONAL TANK *

Provide a _____ (size) _____ Gal. 125# ASME stamped compression tank. Tank shall be complete with tank fitting, gauge glass, and shut-off valves.

DIAPHRAGM/BLADDER TANK *

Provide a _____ Series "D" _____ Gal. 125# ASME stamped diaphragm tank complete with integral heavy-duty butyl rubber diaphragm and air changing valve.

The diaphragm tank shall be pre-charged, horizontal steel expansion tank with integral, heavy-duty butyl rubber diaphragm. The tank shall have NPT system connections and a charging valve connection (standard tire valve) to facilitate the on-site charging of the tank to meet system requirements. The tank must be constructed in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code and stamped for 150 PSI working pressure.

AIR VENTS (For Use With Diaphragm/Bladder Tank Only)

Provide a _____ Model 107, non-modulating high capacity air vent. The vent shall be cast iron, stainless brass fitted. Valve shall be rated for 150 PSIG at a maximum temperature of 250 F.

* NOTE: Provide either conventional or diaphragm/bladder tank (choose only one)

CONTROL PANEL

Provide mounted and wired U.L. 508 listed, NEMA _____, power and control cabinet _____ V _____ Phase _____ HZ, including:

- *Thru door fused disconnects (one per pump)
- *Combination magnetic starter with 3 leg overload protection (one per pump)
- *H-O-A selector switch and run light (one per pump)
- *Fused control circuit transformer

FACTORY PREFABRICATION

Provide heat transfer system as a complete package system on a structure steel mounting frame, piped, mounted and wired. Unit shall be factory primed and painted with machine grade finish coat. All welding shall be performed by ASME Section 9 certified welders.

THIRD PARTY TESTING, OSHA REQUIREMENT

The package shall be UL Listed as a system for its intended use, so meeting OSHA Federal Regulations 29 CFR 1910.303 and 399 as well as NFPA Pamphlet #70 (National Electric Code) Article 90-7, City of Los Angeles Approval Code, CMR248 Massachusetts State Plumbing Code Approval.

FACTORY TEST

The package shall be electrically and hydrostatically tested before shipment.

STARTUP (Optional)

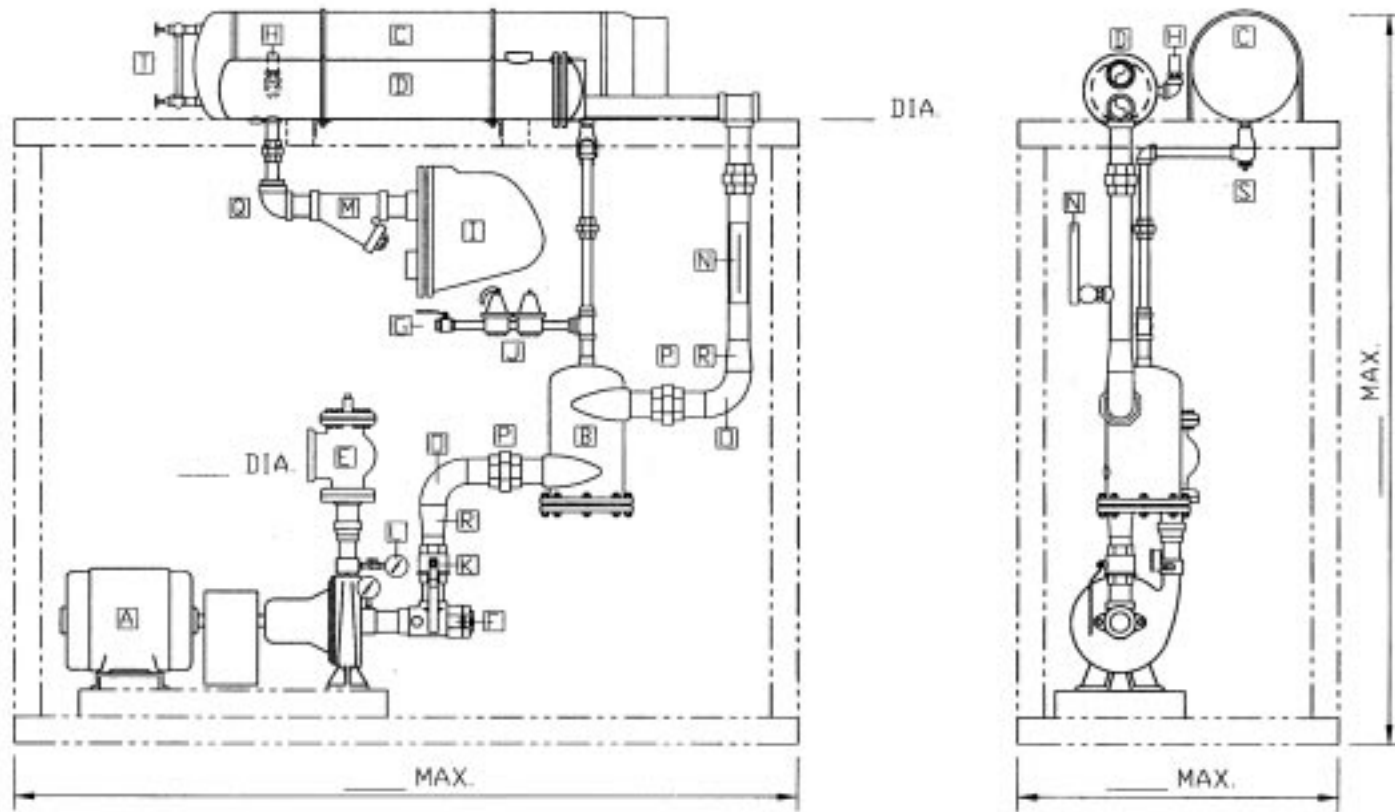
The factory authorized local representative shall provide (2) hours of startup and field training.

WARRANTY

Each **TIGERFLOW** system shall be warranted for a period of (18) months from date of shipment or (12) months from date of startup, whichever occurs first.

TEMPERATURE CONTROL (Optional)

Temperature control valve shall be rated for ____ (GPM) (LB/HR). Unit shall have three valve bypass manifold for redundancy.



Notes:

1. Dimensions are not for constructions purposes unless certified.
2. All dimensions are $\pm 1/2"$.
3. All dimensions are subject to change without notice.
4. Pipe supports not shown for clarity.
5. All welding done by ASME code section 9 certified welders.

TIGERFLOW Packaged Systems are third party U.L. labeled/C.U.L. labeled as a system to comply with OSHA federal regulations 29CFR1910.303, .399 and NEC #70 Article 90-7

MODEL #: _____

SYSTEM TYPE: _____

PROJECT NAME: _____

DESIGN FLOW: _____

DESIGN PRESSURE: _____



DATE: _____

SCALE: _____

APPROVED: _____

DRAWN BY: _____

REVISION NO: _____

KEY

| | | | | | |
|----------|---|--|----------|---|--|
| A | 1 | B&G MODEL 1510, 1-1/2"BC, 7.5HP CENTRIFUGAL PUMP | K | 1 | 2" WATTS FBV-1 BALL VALVE |
| B | 1 | B&G MODEL RL-2-1/2" ROLAIRTROL AIR SEPARATOR | L | 2 | 2-1/2" DIA. GLY. FILLED GAUGES (S & D) |
| C | 1 | B&G MODEL 24 EXPANSION TANK | M | 1 | 2" WATTS MODEL 77S Y TYPE STRAINER |
| D | 1 | B&G MODEL SU63-2 HEAT EXCHANGER | N | 1 | WEKSLER 9" SCALE TYPE THERMOMETER |
| E | 1 | B&G MODEL 3D-2S TRIPLE DUTY VALVES | O | 1 | 2" WELD ELBOW |
| F | 1 | MODEL BB-3 SUCTION DIFFUSER | P | 2 | 2-1/2" UNIONS (NPT) |
| G | 1 | 1/2" WATTS FBV-1 BALL VALVE | Q | 1 | 2" ELBOW W/ 2"x1-1/2"(NPT) |
| H | 1 | HOFFMAN MODEL NO. 62 VACUUM BREAKER | R | 2 | 2-1/2"x2" WELD REDUCERS |
| I | 1 | HOFFMAN MODEL FT075X 2" STEAM TRAP | S | 1 | ATF-12 TANK FITTING |
| J | 1 | B&G MODEL 8 COMBINATION VALVE | T | 1 | CONBRACO GAUGE GLASS |

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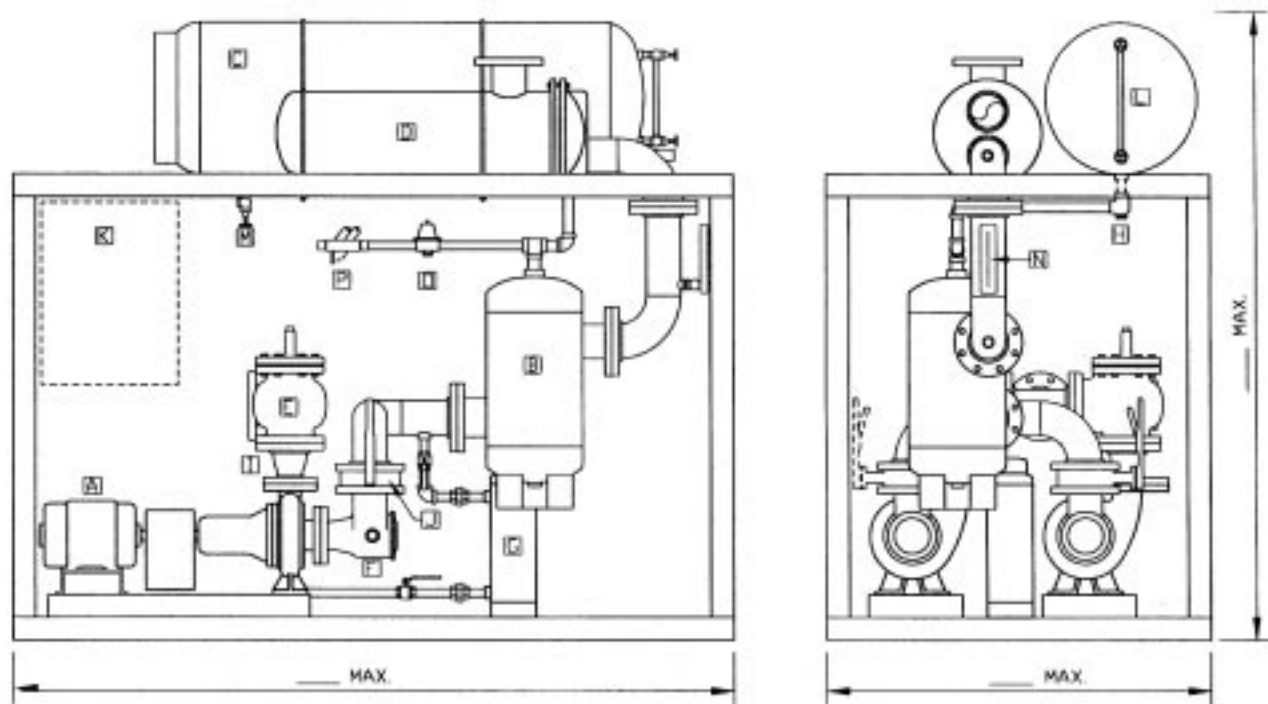
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- Ⓐ 2 CENTRIFUGAL PUMP
- Ⓑ 1 AIR SEPARATOR
- Ⓒ 1 EXPANSION TANK
- Ⓓ 1 HEAT EXCHANGER
- Ⓔ 2 TRIPLE DUTY VALVES
- Ⓕ 2 SUCTION DIFFUSERS

- Ⓖ 1 SHOT FEEDER
- Ⓗ 1 DRAINAGE ELBOW
- Ⓙ 2 WELD REDUCERS
- Ⓚ 2 LUG STYLE BUTTERFLY VALVES
- Ⓛ 1 U.L. LABELED POWER AND CONTROL PANEL
- Ⓜ 1 GAUGE GLASS

- Ⓝ 1 DRAIN-O-TANK
- Ⓞ 1 TEMPERATURE GAUGE
- Ⓟ 1 REDUCING VALVE
- Ⓠ 1 BACKFLOW PREVENTER

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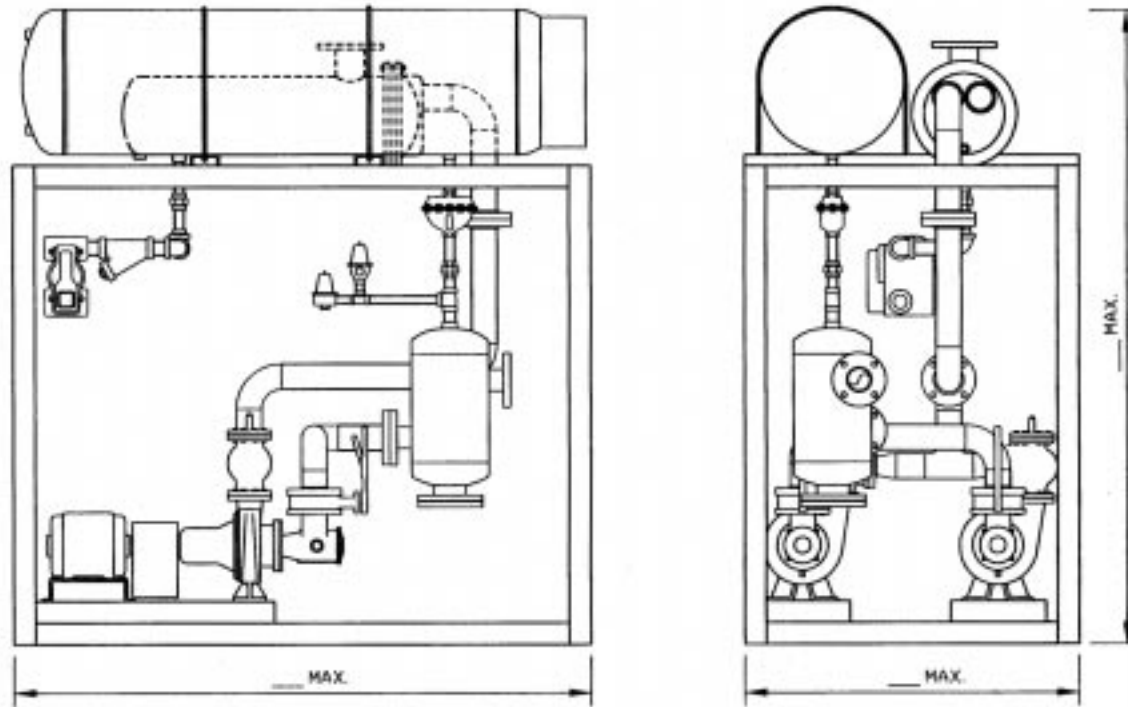
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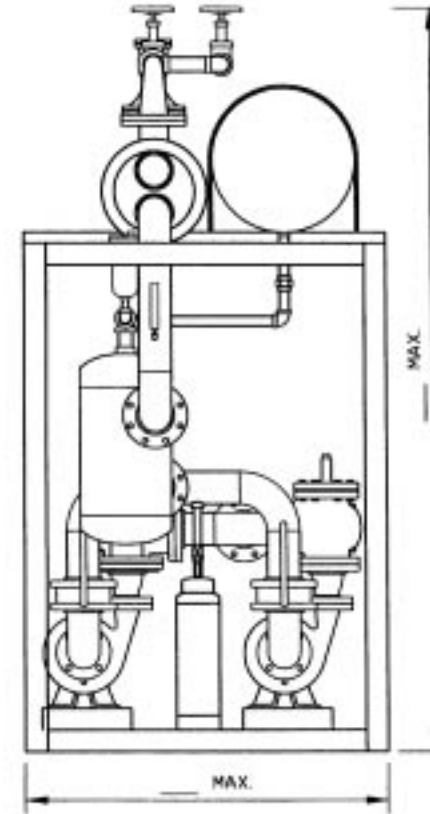
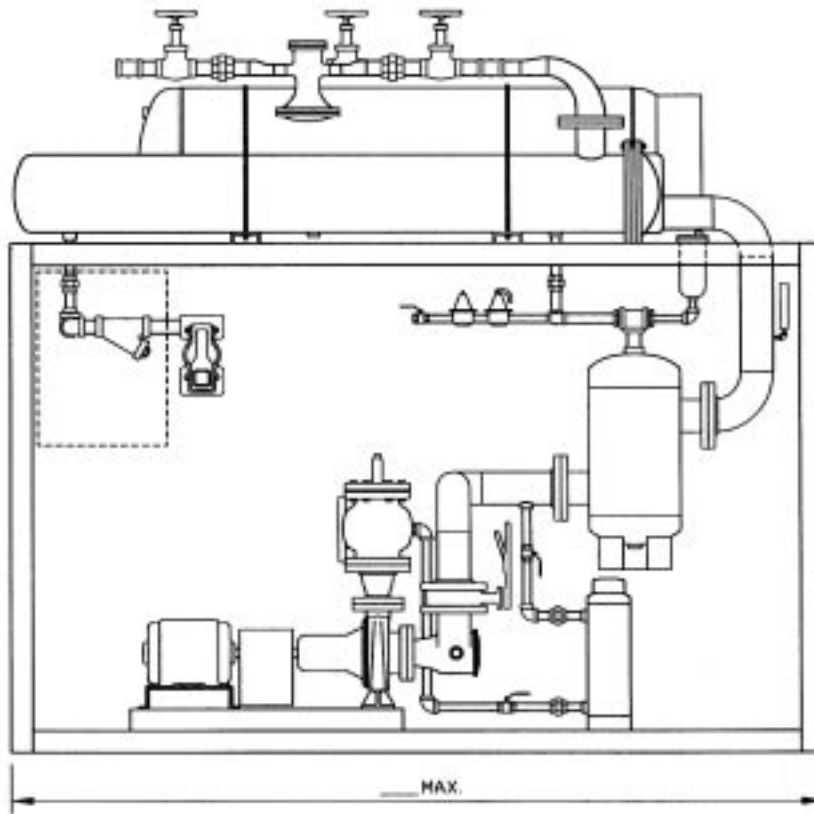
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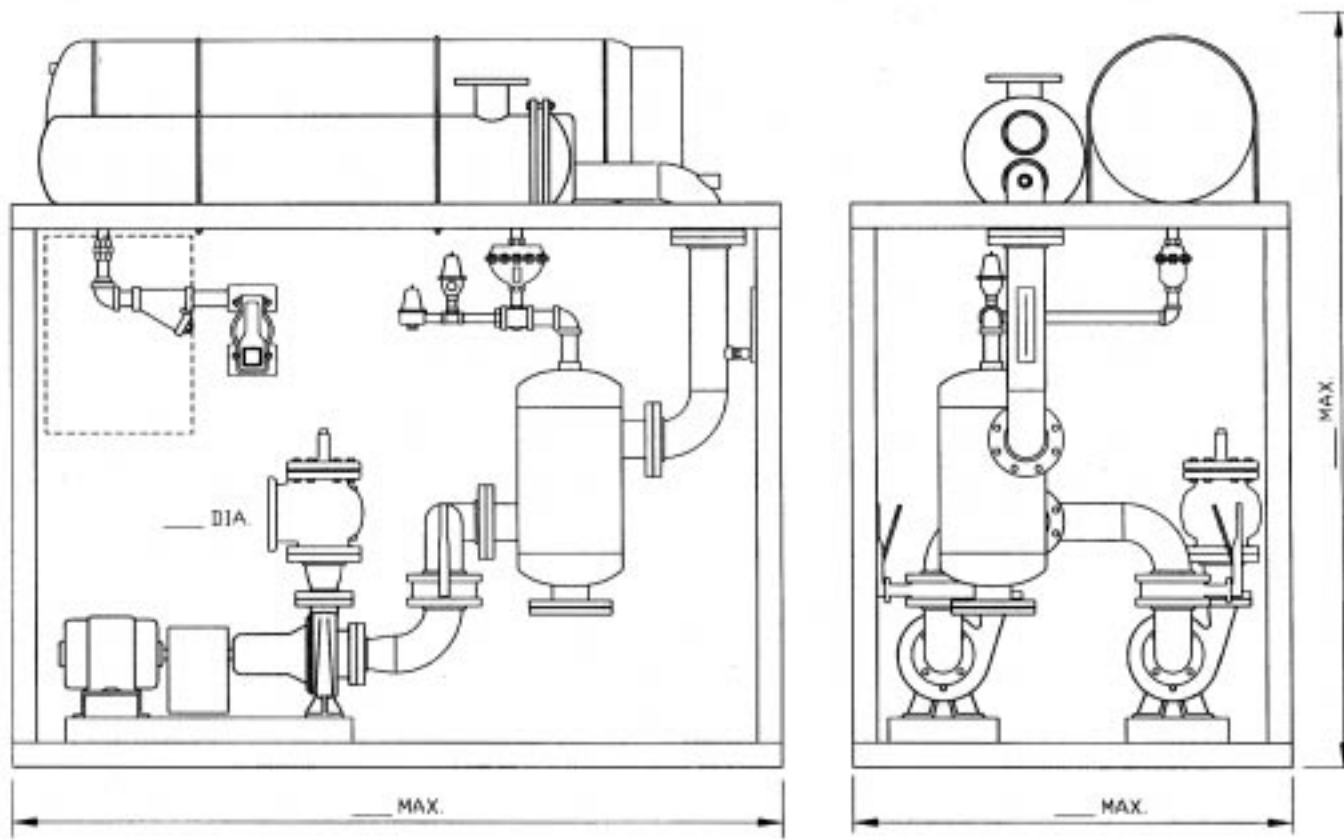
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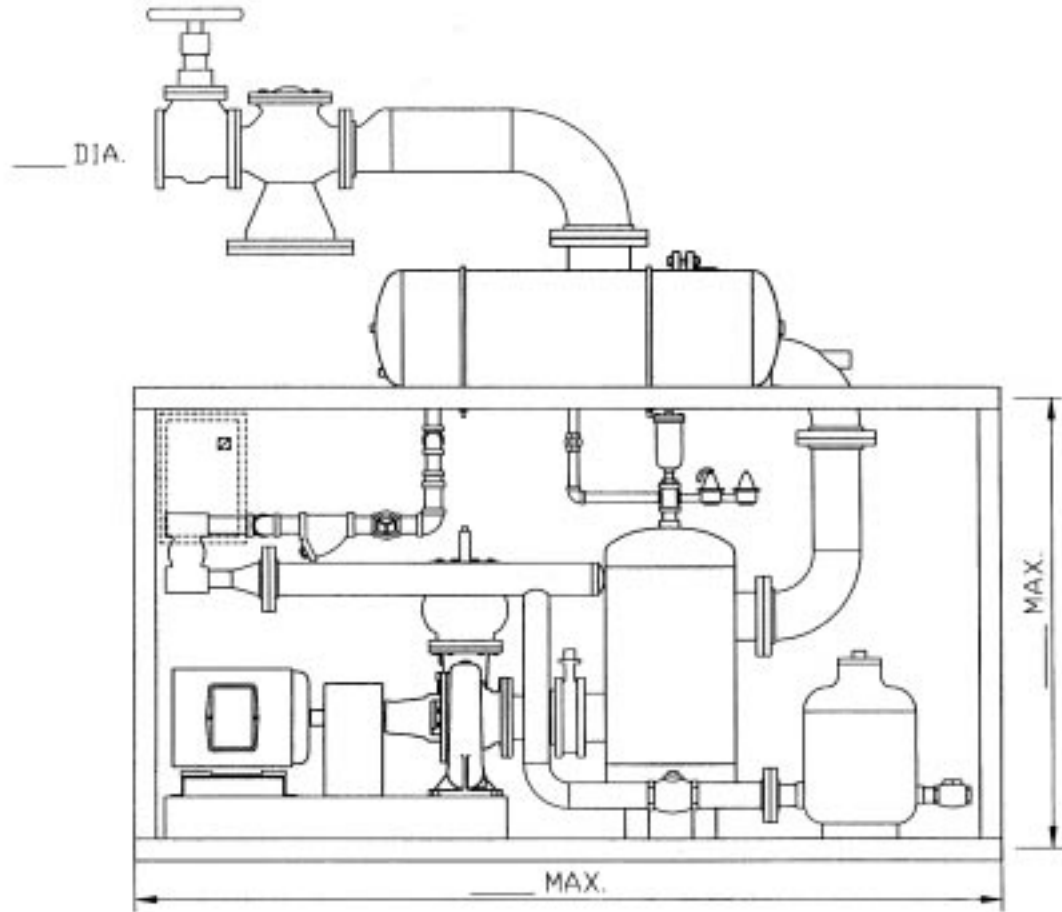
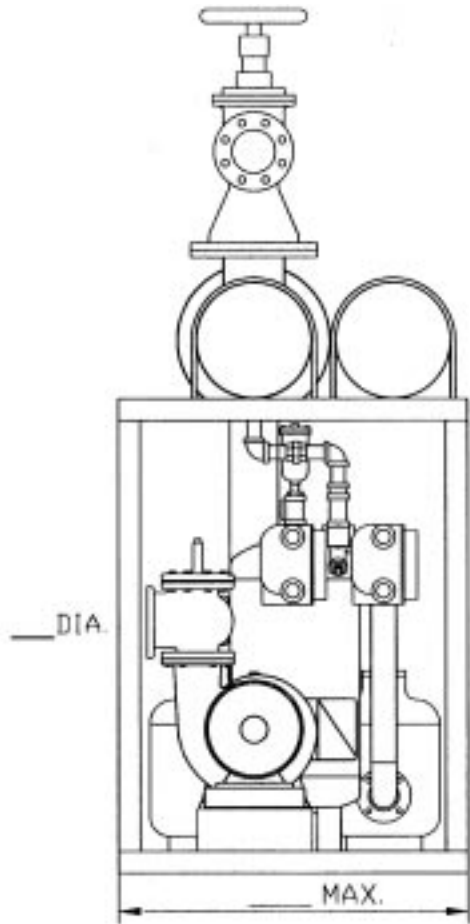
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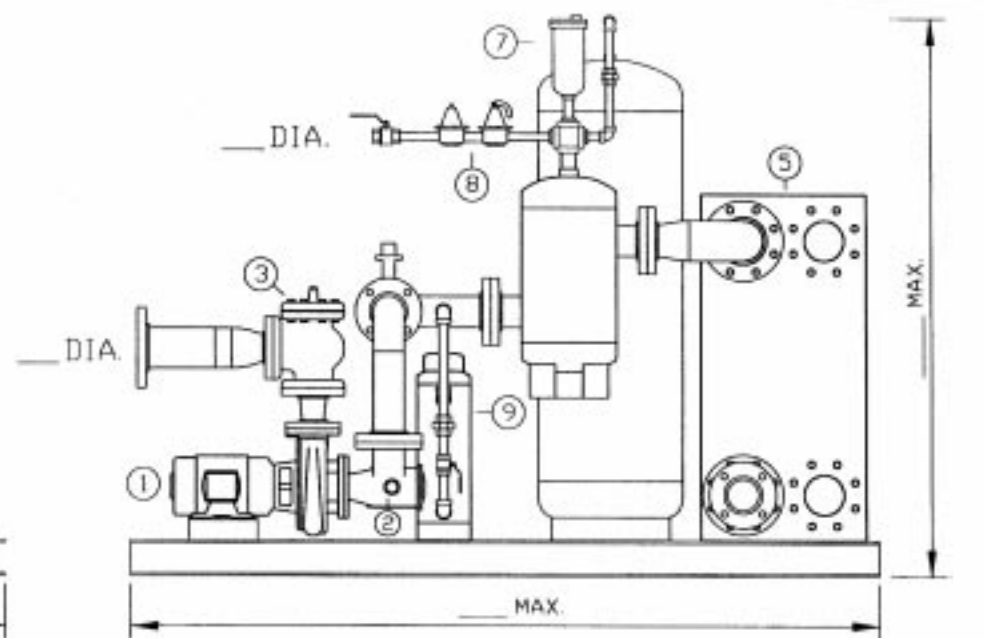
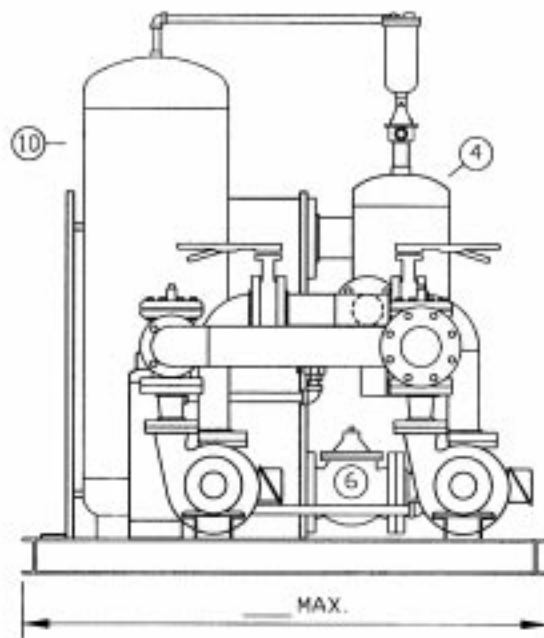
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- ① CENTRIFUGAL PUMP
- ② SUCTION DIFFUSER
- ③ TRIPLE DUTY VALVE
- ④ AIR SEPARATOR
- ⑤ PLATE HEAT EXCHANGER

- ⑥ SOLENOID CONTROL VALVE
- ⑦ AIR VENT
- ⑧ DUAL UNIT VALVES
- ⑨ POT FEEDER
- ⑩ EXPANSION TANK

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