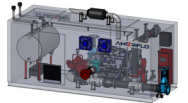


**Specifications for GENESYS
GEN-PAC Booster Systems**



GENERAL:

The pumps furnished for fire protection service shall be supplied with the specified drivers, controls and pump accessory items by the pump manufacturer to ensure single source responsibility. The pump, driver and controls shall be:

- ☐ Underwriters Laboratories (UL) Listed
- ☐ Factory Mutual Laboratories (FM) Approved

The Pump type(s) shall be one of the following and meet the appropriate separate specifications based on specific pump type:

- ☐ ES - Flex-Coupled End Suction
- ☐ VI - Close-Coupled Vertical Inline
- ☐ SC - Single or Two-Stage Split Case
- ☐ VT - Vertical Turbine

GEN-PAC Booster System pump orientation shall be:

- ☐ Simplex Electric (1E)
- ☐ Simplex Diesel (1D)
- ☐ Simplex Electric + Simplex Diesel (1E + 1D)
- ☐ Duplex Electric (2E)
- ☐ Duplex Diesel (2D)

GEN-PAC Booster System pump construction shall be:

- ☐ GEN-PAC SKID (I-Beam base with all equipment, piping and controller(s) mounted on common base)
- ☐ GEN-PAC CONTAINER (20 or 40 foot container with all equipment, lighting, piping and controller(s) mounted in a common pump house constructed entirely out of fabricated steel construction)

The pumping equipment shall be installed as recommended in the NFPA 20, Standard for the Installation of Centrifugal Fire Pumps. AMERIFLO GEN-PAC Booster Systems shall be furnished with driver, controllers and accessories as detailed in this specification. Pump manufacturer shall have unit responsibility for the proper operation of the complete unit assembly as indicated by field acceptance tests.

Pump performance requirements:

- ☐ the maximum net pressure for a fire pump shall not exceed 140 percent of rated head
- ☐ inlet pressure less than -6.9 PSI [-47.7 KPA]. A pump shall develop not less than 65 percent of rated total head when discharging at 1-1/2 times rated flow
- ☐ a test is to be conducted with a positive suction pressure sufficient to achieve the maximum brake horsepower
- ☐ the shutoff head shall not be less than 99% of Max head

[Application Standard: UL 448, FM 1311]

MANUFACTURER'S FACTORY TEST:

Each individual pump shall be hydrostatically tested for not less than 5 minutes and run tested prior to shipment. The pump shall be hydrostatically tested at a pressure of not less than 2 times the no flow (shut off) head of the pump's maximum diameter impeller plus the maximum allowable suction head but in no case less than 40 psi.

[Application Standard: UL 448, FM 1311]

☐ **GEN-PAC SKID:**

The fire system shall be constructed from carbon steel ASTM A-53, Grade B flanged and grooved piping rated to 250 PSI. The discharge piping shall be sized per NFPA 20 guidelines with fluid velocity not exceeding 20 FT/SEC (6.1 M/SEC) at the 150 % run-out duty point. Minimum piping, valves and fittings are to be sized per the following table.

PUMP RATING	SUCTION MANIFOLD	DISCHARGE MANIFOLD	MAIN RELIEF VALVE	RELIEF VALVE DISCHARGE	FLOW METER	HOSE HEADER	HOSE VALVES
25	1	1	0.75	1	1.25	1	1 - 1.5
50	1.5	1.5	1.25	1.5	2	1.5	1 - 1.5
100	2	2	1.5	2	2.5	2.5	1 - 2.5
150	2.5	2.5	2	2.5	3	2.5	1 - 2.5
200	3	3	2	2.5	3	2.5	1 - 2.5
250	4	4	2	2.5	4	3	1 - 2.5
300	4	4	2.5	3.5	4	3	1 - 2.5
400	4	4	3	5	4	4	2 - 2.5
450	5	5	3	5	4	4	2 - 2.5
500	5	5	3	5	5	4	2 - 2.5
750	6	6	4	6	5	6	3 - 2.5
1000	8	6	4	8	6	6	4 - 2.5
1250	8	8	6	8	6	8	6 - 2.5
1500	8	8	6	8	8	8	6 - 2.5
2000	10	10	6	10	8	8	6 - 2.5
2500	10	10	6	10	8	10	8 - 2.5
3000	12	12	8	12	8	10	12 - 2.5
3500	12	12	8	12	10	12	12 - 2.5
4000	14	12	8	14	10	12	16 - 2.5
4500	16	14	8	14	10	12	16 - 2.5
5000	16	14	8	14	10	12	20 - 2.5

GEN-PAC SKID features include:

SUCTION MANIFOLD (Excluding Vertical Turbine pumps)

One (1) _____ inch grooved or flanged OS&Y gate valves with external tamper switch

One (1) _____ grooved or flanged eccentric reducer (if required)

DISCHARGE MANIFOLD (Horizontal pumps)

One (1) _____ inch grooved or flanged butterfly valves with external tamper switch

One (1) _____ inch grooved or flanged concentric increaser (if required)

One (1) _____ inch grooved or flanged check valve

☐ **CITY BYPASS LOOP (Piped to suction or edge of system for return to storage tank)**

Two (2) _____ inch grooved or flanged butterfly valves with external tamper switch

One (1) _____ inch grooved or flanged venturi type flow meter with dial and hoses

One (1) 0.500 inch threaded automatic air release valve

☐ **FLOW METER LOOP (Piped to suction or edge of system for return to storage tank)**

Two (2) _____ inch grooved or flanged butterfly valves with external tamper switch

One (1) _____ inch grooved or flanged venturi type flow meter with dial and hoses

One (1) 0.500 inch threaded automatic air release valve

☐ **MAIN RELIEF VALVE LOOP (Piped to edge of system for return to storage tank)**

One (1) _____ inch grooved or flanged main relief valve

One (1) _____ inch flanged closed waste cone with sight glass

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- ☐ TEST HEADER LOOP (Hose valve header, hose valves, caps & chains will be shipped loose and installed by others)
 - One (1) _____ inch grooved or flanged butterfly valves with external tamper switch
 - One (1) _____ inch outlet test header
 - One (1) 0.500 inch ball check valve

☐ JOCKEY PUMP LOOP

- Two (2) _____ inch grooved or flanged OS&Y valves
- One (1) _____ inch grooved or flanged check valve
- One (1) 0.500 inch threaded automatic air release valve mounted on jockey pump discharge piping

☐ PRESSURE SENSING LINES

- One (1) _____ inch 304 stainless steel sensing lines per fire pump & jockey pump
- One (1) _____ inch 304 stainless steel test connection port per fire pump & jockey pump

☐ GEN-PAC CONTAINER:

In addition to the specification details listed in the previous GEN-PAC SKID section, the GEN-PAC CONTAINER features include:

- ☐ Minimum 110 MPH wind load, minimum 40 LBS live load designed to meet local building codes with a 192 ton top loading capacity
- ☐ Steel plate floor covering the entire enclosure with welded gussets for suction and discharge piping.
- ☐ Sound deadening material integral to all internal walls
- ☐ State of _____ stamp on the GEN-PAC Container
- ☐ State of _____ Industrial Building Code Label
- ☐ Seismic calculations per _____
- ☐ Double commercial doors (1 per pump set) with stainless steel hardware
- ☐ Electrical distribution system
 - ☐ _____ volt incoming distribution panel with electrical blocks
 - ☐ _____ dry type transformer, load center with circuit breakers, NEMA 3R for single phase loads
 - ☐ One (1) GFCI receptacles
 - ☐ Weatherproof light switch at each door location
 - ☐ Two (2) florescent light fixtures, moisture and dust proof
 - ☐ External light above each door, photocell operated
 - ☐ Internal emergency exit lights
- ☐ Thermostat controlled exhaust fans with gravity intake louvers
- ☐ State of _____ stamp on the GEN-PAC Container Electric unit heaters to maintain a minimum room temperature of 40°F [4.5°C]
- ☐ State of _____ stamp on the GEN-PAC Container Electric unit air conditioners
- ☐ Combustion air louvers (when using a diesel engine driver)
- ☐ NFPA 13 compliant sprinkler system
- ☐ One (1) _____ inch drain line piped to edge of system
- ☐ Standard AF factory coating system