

## IC Series

Constant Pressure  
Inverter Control System



# **TPHIC** Series Constant Pressure Inverter Control System

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Walrus TPHIC series is a system that combines pump and inverter control panel to provide a constant supply of pressurized water. It is available in simplex and duplex pre-engineered design with standard and optional features.

### Applications:

Boost a constant water pressure for apartment buildings, motels, factories, houses, irrigation systems, water filtration systems, HVAC systems, etc.

### Suitable Liquids:

Potable water or other clean, thin or non-aggressive liquids.

### Application Conditions:

Ambient temperature: Max. +104°F (+40°C)

Liquid temperature: +39°F ~ +104°F (+4°C ~+40°C)

Inlet pressure: Lower than the constant pressure setting limit (see page 5~11)

### Product Features:

The pump will start smoothly when the tap is open and will continue to run when water is in use. It will stop when system is in max pressure and the water flow is stopped. The pressure is transmitted by pressure sensor for normal auto on-off operation. The factory has preset the pressure according to each rating and it is adjustable by changing the program in the inverter controller. Pump will always provide the constant pressure; although the motor speed will be varied by the different operating flow rate.

### Dry run protection:

The pump will automatically shut off when it is in dry run. When the discharge cannot reach the set pressure, or the liquid temperature exceeds 131°F (55°C), the pump will stop. It will resume operation when the water supply is back up or the liquid temperature drops to below 104°F (40°C).

### Pressure compensation for pipe leak:

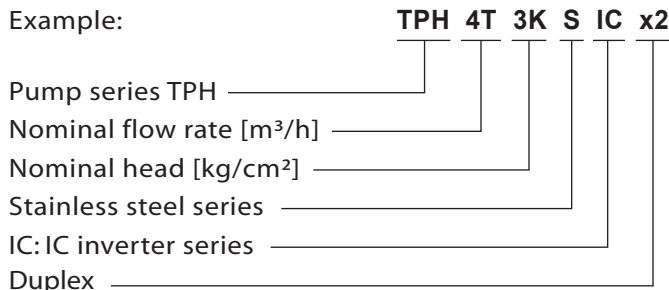
The pump will compensate the pressure loss due to the leak in the system. When the system leak has dried out the water in the pressure tank, the pump will automatically start to fill up the tank.

### Duplex system operations:

The lead pump shall run continuously to maintain system pressure. When the lead pump is unable to maintain system pressure the lag pump will be called on and will operate in parallel with the lead pump. When one pump can handle the system demand the controls will shut down the lag pump. Pump alternation is accomplished with a 24-hour time clock.

### Model Code:

Example:



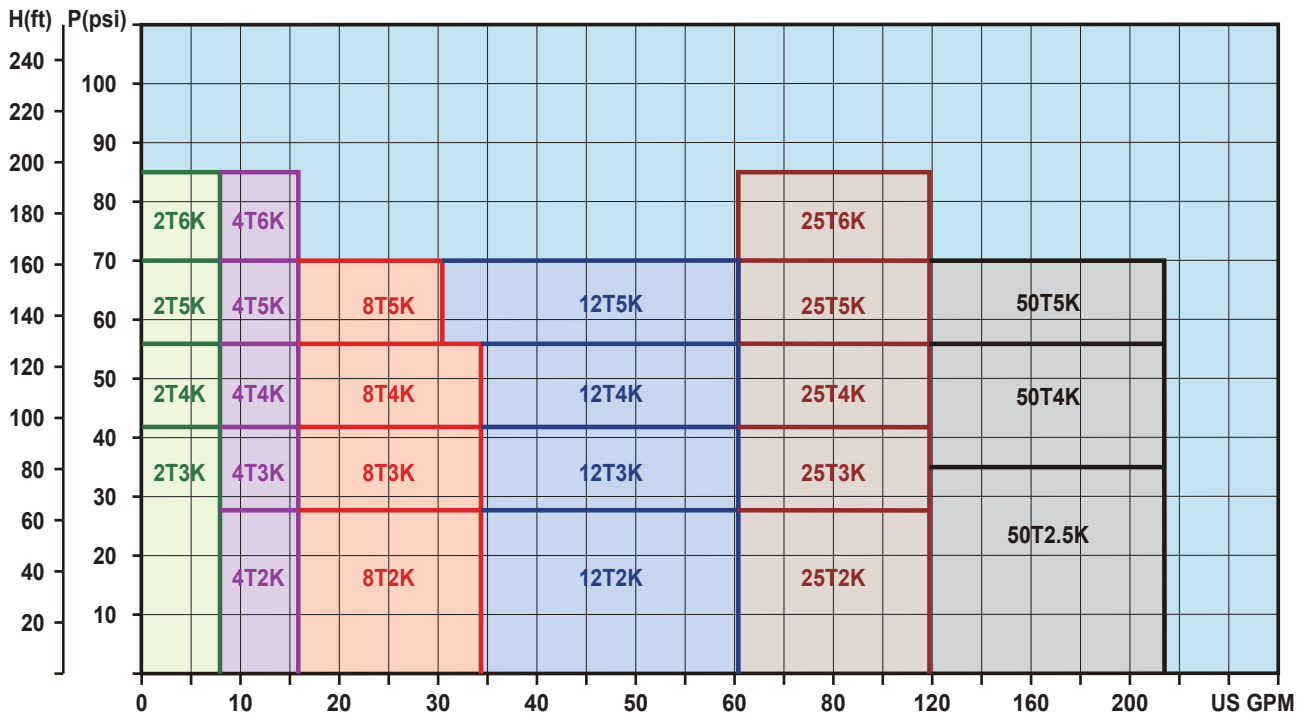
### Accessories:

Subject to added cost, Walrus is able to supply the following accessories:

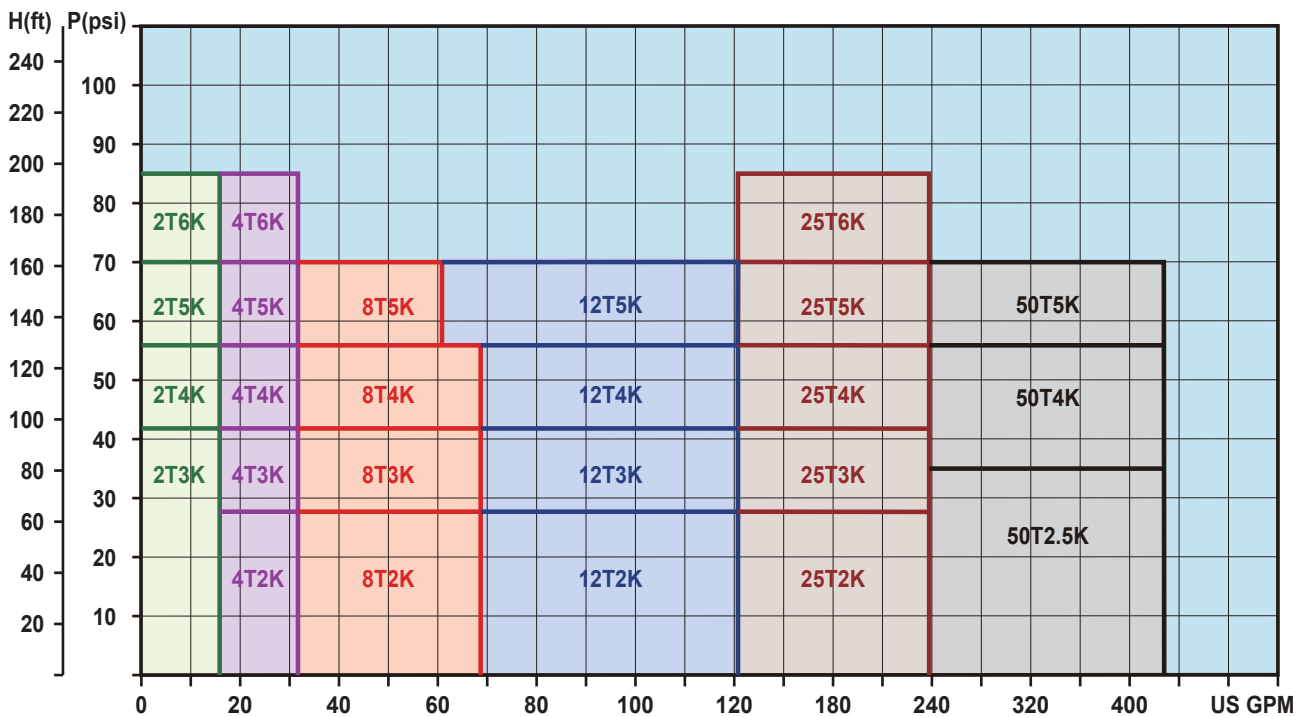
1. The inlet header for Duplex systems.
2. The shut off valves for inlet and outlet.

# TPHIC Series Constant Pressure Inverter Control System

## Performance Curves - Simplex



## Performance Curves - Duplex



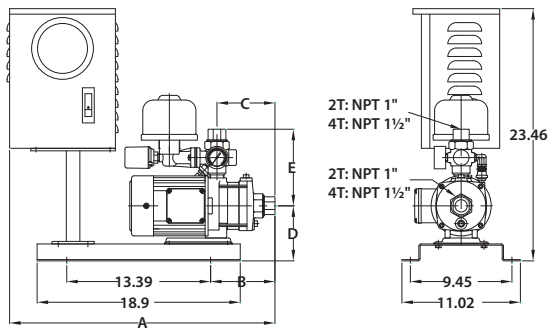
## Specifications - Simplex

Model	Inverter Controller		No-Fuse Breaker (A)	Pre-set Pressure (PSI)	Inlet (NPT)	Outlet (NPT)	Nominal Set Head (ft)	Nominal set Flow (GPM)
	Output Power (HP)	Voltage (V)						
TPH2T3K(S)IC	1	1Ø 115V / 1Ø 230V / 3Ø 230V	15/ 10/ 5	42	1"	1"	98	8
		3Ø 460V	5					
TPH2T4K(S)IC	1	1Ø 115V / 1Ø 230V / 3Ø 230V	15/ 10/ 5	56	1"	1"	130	8
		3Ø 460V	5					
TPH2T5K(S)IC	1	1Ø 115V / 1Ø 230V / 3Ø 230V	30/ 15/ 10	70	1"	1"	160	8
		3Ø 460V	5					
TPH2T6K(S)IC	1	1Ø 115V / 1Ø 230V / 3Ø 230V	30/ 15/ 10	85	1"	1"	196	8
		3Ø 460V	5					
TPH4T2K(S)IC	1	1Ø 115V / 1Ø 230V / 3Ø 230V	15/ 10/ 5	28	1½"	1½"	65	16
		3Ø 460V	5					
TPH4T3K(S)IC	1	1Ø 115V / 1Ø 230V / 3Ø 230V	30/ 15/ 10	42	1½"	1½"	98	16
		3Ø 460V	5					
TPH4T4K(S)IC	2	1Ø 230V / 3Ø 230V	15/ 10	56	1½"	1½"	130	16
		3Ø 460V	5					
TPH4T5K(S)IC	2	1Ø 230V / 3Ø 230V	20/ 15	70	1½"	1½"	160	16
		3Ø 460V	10					
TPH4T6K(S)IC	2	1Ø 230V / 3Ø 230V	20/ 20	85	1½"	1½"	196	16
		3Ø 460V	10					

\*\* (S): Stainless steel series

## Dimensions ( in. )

• Fig. 1 TPH2T / 4T - IC



Model	A	B	C	D	E	Pressure tank (gal)	Fig.	N.W. (lb)
TPH2T3KIC	21.34	5.20	4.61	5.12	7.24	0.2	1	52.7
TPH2T4KIC	22.05	5.91	5.31	5.12	7.24	0.2	1	52.9
TPH2T5KIC	22.76	6.61	6.02	5.12	7.24	0.2	1	56.2
TPH2T6KIC	23.46	7.32	6.73	5.12	7.24	0.2	1	56.4
TPH4T2KIC	22.13	5.98	5.39	5.12	7.24	0.2	1	50.9
TPH4T3KIC	23.15	7.01	6.42	5.12	7.24	0.2	1	54.5
TPH4T4KIC	24.21	8.07	7.48	5.12	7.24	0.2	1	58.2
TPH4T5KIC	25.28	9.13	8.54	5.12	7.24	0.2	1	58.4
TPH4T6KIC	26.38	10.24	9.65	5.12	7.24	0.2	1	62.6

# TPH 8T/12T IC

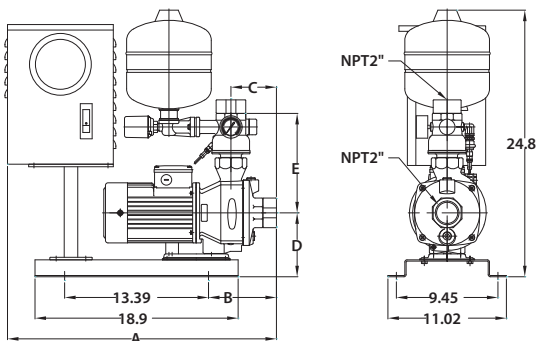
## Specifications - Simplex

Model	Inverter Controller		No-Fuse Breaker (A)	Pre-set Pressure (PSI)	Inlet (NPT)	Outlet (NPT)	Nominal Set Head (ft)	Nominal set Flow (GPM)
	Output Power (HP)	Voltage (V)						
TPH 8T2K(S)IC	1	1Ø 115V / 1Ø 230V / 3Ø 230V	30/ 15/ 10	28	2"	2"	65	34
		3Ø 460V	5					
TPH8T3K(S)IC	2	1Ø 230V / 3Ø 230V	20/ 15	42	2"	2"	98	34
		3Ø 460V	10					
TPH8T4K(S)IC	3	1Ø 230V / 3Ø 230V	30/ 15	56	2"	2"	130	34
		3Ø 460V	10					
TPH8T5K(S)IC	3	1Ø 230V / 3Ø 230V	30/ 15	70	2"	2"	160	30
		3Ø 460V	10					
TPH12T2K(S)IC	2	1Ø 230V / 3Ø 230V	10/ 5	28	2"	2"	65	60
		3Ø 460V	5					
TPH12T3K(S)IC	3	1Ø 230V / 3Ø 230V	30/ 15	42	2"	2"	98	60
		3Ø 460V	10					
TPH12T4K(S)IC	5	3Ø 230V	20	56	2"	2"	130	60
		3Ø 460V	10					
TPH12T5K(S)IC	5	3Ø 230V	30	70	2"	2"	160	60
		3Ø 460V	15					

\*\* (S): Stainless steel series

## Dimensions ( in.)

• Fig. 2 TPH8T /12T - IC



Model	A	B	C	D	E	Pressure tank (gal)	Fig.	N.W. (lb)
TPH8T2KIC	22.44	6.30	4.21	5.91	10.47	1.0	2	70.1
TPH8T3KIC	23.70	7.56	5.47	5.91	10.47	1.0	2	72.8
TPH8T4KIC	23.70	7.56	5.47	5.91	10.47	1.0	2	84.6
TPH8T5KIC	25.04	8.90	6.81	5.91	10.47	1.0	2	84.8
TPH12T2KIC	22.44	6.30	4.21	5.91	10.47	1.0	2	72.7
TPH12T3KIC	23.70	7.56	5.47	5.91	10.47	1.0	2	84.6
TPH12T4KIC	23.70	7.56	5.47	5.91	10.47	1.0	2	108.4
TPH12T5KIC	27.40	8.90	6.81	5.91	10.47	1.0	2	123.5

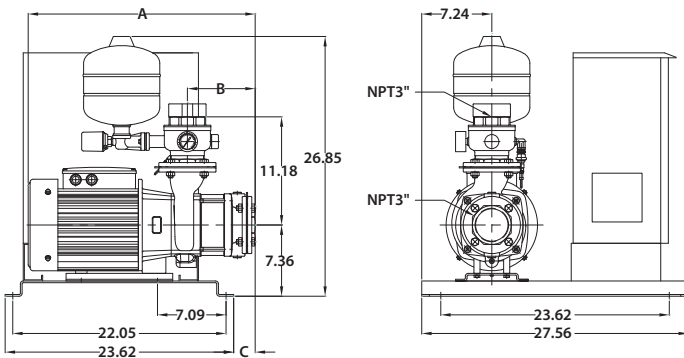
## Specifications - Simplex

Model	Inverter Controller		No-Fuse Breaker (A)	Pre-set Pressure (PSI)	Inlet (NPT)	Outlet (NPT)	Nominal Set Head (ft)	Nominal set Flow (GPM)
	Output Power (HP)	Voltage (V)						
TPH25T2K(S)IC	5	3Ø 230V	25	28	3"	3"	65	118
		3Ø 460V	15					
TPH25T3K(S)IC	5	3Ø 230V	25	42	3"	3"	98	118
		3Ø 460V	15					
TPH25T4K(S)IC	7½	3Ø 230V	50	56	3"	3"	130	118
		3Ø 460V	20					
TPH25T5K(S)IC	10	3Ø 230V	60	70	3"	3"	160	118
		3Ø 460V	30					
TPH25T6K(S)IC	10	3Ø 230V	60	85	3"	3"	196	118
		3Ø 460V	30					
TPH50T2.5K(S)IC	7½	3Ø 230V	50	35	4"	4"	80	214
		3Ø 460V	20					
TPH50T4K(S)IC	10	3Ø 230V	60	56	4"	4"	130	214
		3Ø 460V	30					
TPH50T5K(S)IC	15	3Ø 230V	75	70	4"	4"	160	214
		3Ø 460V	40					

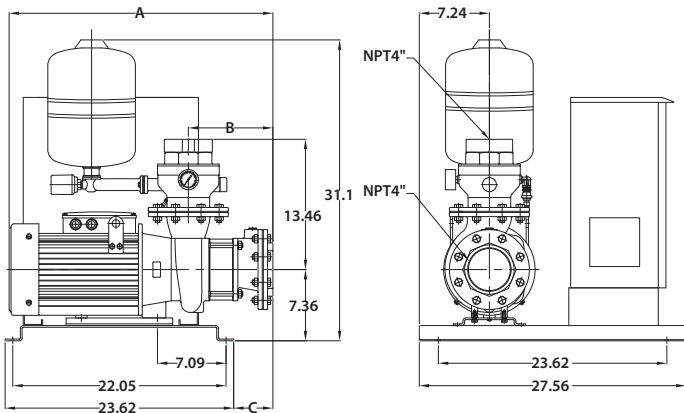
\*\* (S): Stainless steel series

## Dimensions (in.)

• Fig. 3 TPH 25T – IC



• Fig. 4 TPH 50T – IC



Model	A	B	C	Pressure tank (gal)	Fig.	N.W. (lb)
TPH25T2KIC	21.18	4.72	-0.09	1.0	3	213.6
TPH25T3KIC	23.54	7.09	2.28	1.0	3	226.4
TPH25T4KIC	23.54	7.09	2.28	1.0	3	227.1
TPH25T5KIC	27.87	9.45	4.65	1.0	3	253.1
TPH25T6KIC	27.87	9.45	4.65	1.0	3	253.5
TPH50T2.5KIC	22.95	6.38	1.69	3.17	4	254.4
TPH50T4KIC	27.28	8.74	4.06	3.17	4	280.8
TPH50T5KIC	29.25	8.74	4.06	3.17	4	308.0

# TPH 2T/4T ICx2

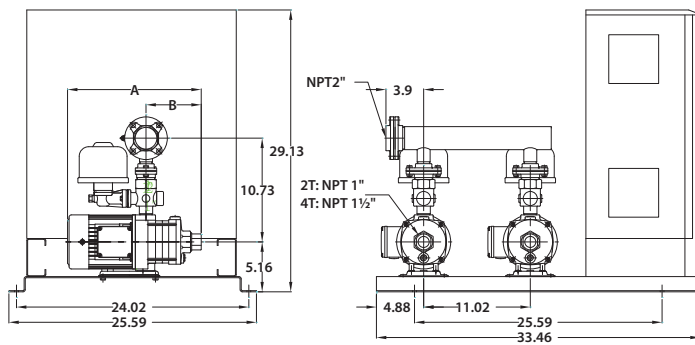
## Specifications - Duplex

Model	Inverter Controller		No-Fuse Breaker (A)	Pre-set Pressure (PSI)	Inlet (NPT)	Outlet (NPT)	Nominal Set Head (ft)	Nominal set Flow (GPM)
	Output Power (HP)	Voltage (V)						
TPH2T3K(S)IC x2	1 x2	1Ø 115V / 1Ø 230V / 3Ø 230V 3Ø 460V	30/ 15/ 10 5	42	1"	1½"	98	16
TPH2T4K(S)IC x2	1 x2	1Ø 115V / 1Ø 230V / 3Ø 230V 3Ø 460V	30/ 15/ 10 5	56	1"	1½"	130	16
TPH2T5K(S)IC x2	1 x2	1Ø 115V / 1Ø 230V / 3Ø 230V 3Ø 460V	50/ 30/ 15 10	70	1"	1½"	160	16
TPH2T6K(S)IC x2	1 x2	1Ø 115V / 1Ø 230V / 3Ø 230V 3Ø 460V	50/ 30/ 15 10	85	1"	1½"	196	16
TPH4T2K(S)IC x2	1 x2	1Ø 115V / 1Ø 230V / 3Ø 230V 3Ø 460V	30/ 15/ 10 5	28	1½"	2"	65	32
TPH4T3K(S)IC x2	1 x2	1Ø 115V / 1Ø 230V / 3Ø 230V 3Ø 460V	50/ 30/ 15 10	42	1½"	2"	98	32
TPH4T4K(S)IC x2	2 x2	1Ø 230V / 3Ø 230V 3Ø 460V	30/ 15 10	56	1½"	2"	130	32
TPH4T5K(S)IC x2	2 x2	1Ø 230V / 3Ø 230V 3Ø 460V	40/ 30 15	70	1½"	2"	160	32
TPH4T6K(S)IC x2	2 x2	1Ø 230V / 3Ø 230V 3Ø 460V	40/ 40 20	85	1½"	2"	196	32

\*\* (S): Stainless steel series

## Dimensions ( in. )

• Fig. 5 TPH 2T / 4T – IC x2



Model	A	B	Pressure tank (gal)	Fig.	N.W. (lb)
TPH2T3KIC x2	12.72	4.61	0.2 x2	5	211.2
TPH2T4KIC x2	13.43	5.31	0.2 x2	5	211.6
TPH2T5KIC x2	15.71	6.02	0.2 x2	5	218.2
TPH2T6KIC x2	16.42	6.73	0.2 x2	5	218.7
TPH4T2KIC x2	13.50	5.39	0.2 x2	5	210.3
TPH4T3KIC x2	16.10	6.42	0.2 x2	5	217.4
TPH4T4KIC x2	17.17	7.48	0.2 x2	5	220.9
TPH4T5KIC x2	18.23	8.54	0.2 x2	5	221.3
TPH4T6KIC x2	20.51	9.65	0.2 x2	5	229.7



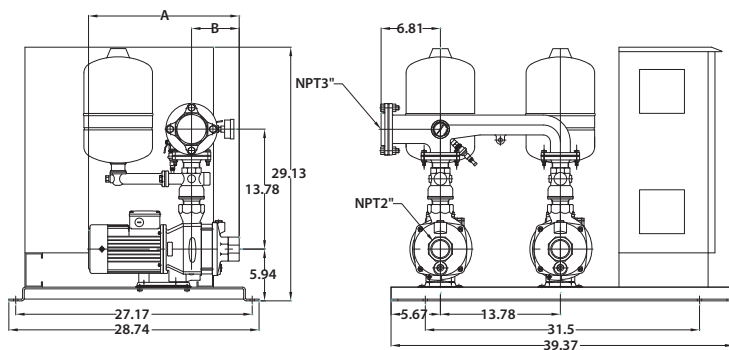
## Specifications - Duplex

Model	Inverter Controller		No-Fuse Breaker (A)	Pre-set Pressure (PSI)	Inlet (NPT)	Outlet (NPT)	Nominal Set Head (ft)	Nominal set Flow (GPM)
	Output Power (HP)	Voltage (V)						
TPH 8T2K(S)IC x2	1 x2	1Ø 115V / 1Ø 230V / 3Ø 230V	50/ 30/ 15	28	2"	3"	65	68
		3Ø 460V	10					
TPH8T3K(S)IC x2	2 x2	1Ø 230V / 3Ø 230V	40/ 30	42	2"	3"	98	68
		3Ø 460V	15					
TPH8T4K(S)IC x2	3 x2	1Ø 230V / 3Ø 230V	50/ 40	56	2"	3"	130	68
		3Ø 460V	15					
TPH8T5K(S)IC x2	3 x2	1Ø 230V / 3Ø 230V	60/ 40	70	2"	3"	160	60
		3Ø 460V	15					
TPH12T2K(S)IC x2	2 x2	1Ø 230V / 3Ø 230V	15/ 10	28	2"	3"	65	120
		3Ø 460V	5					
TPH12T3K(S)IC x2	3 x2	1Ø 230V / 3Ø 230V	50/ 40	42	2"	3"	98	120
		3Ø 460V	15					
TPH12T4K(S)IC x2	5 x2	3Ø 230V	40	56	2"	3"	130	120
		3Ø 460V	20					
TPH12T5K(S)IC x2	5 x2	3Ø 230V	50	70	2"	3"	160	120
		3Ø 460V	30					

\*\* (S): Stainless steel series

## Dimensions ( in.)

• Fig. 6 TPH 8T / 12T – IC x2



Model	A	B	Pressure tank (gal)	Fig.	N.W. (lb)
TPH8T2KIC x2	17.24	4.21	3.17 x2	6	259.3
TPH8T3KIC x2	18.50	5.47	3.17 x2	6	264.5
TPH8T4KIC x2	18.50	5.47	3.17 x2	6	288.4
TPH8T5KIC x2	19.84	6.81	3.17 x2	6	300.4
TPH12T2KIC x2	17.24	4.21	3.17 x2	6	264.5
TPH12T3KIC x2	18.50	5.47	3.17 x2	6	288.4
TPH12T4KIC x2	18.50	5.47	3.17 x2	6	317.5
TPH12T5KIC x2	19.84	6.81	3.17x2	6	347.7

# TPH 25T ICx2

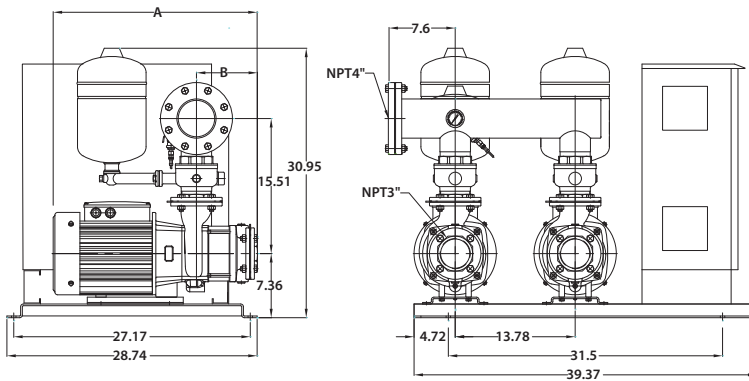
## Specifications - Duplex

Model	Inverter Controller		No-Fuse Breaker (A)	Pre-set Pressure (PSI)	Inlet (NPT)	Outlet (NPT)	Nominal Set Head (ft)	Nominal set Flow (GPM)
	Output Power (HP)	Voltage (V)						
TPH25T2K(S)IC x2	5 x2	3Ø 230V	50	28	3"	4"	65	236
		3Ø 460V	30					
TPH25T3K(S)IC x2	5 x2	3Ø 230V	50	42	3"	4"	98	236
		3Ø 460V	30					
TPH25T4K(S)IC x2	7½ x2	3Ø 230V	100	56	3"	4"	130	236
		3Ø 460V	40					
TPH25T5K(S)IC x2	10 x2	3Ø 230V	125	70	3"	4"	160	236
		3Ø 460V	60					
TPH25T6K(S)IC x2	10 x2	3Ø 230V	125	85	3"	4"	196	236
		3Ø 460V	60					

\*\* (S): Stainless steel series

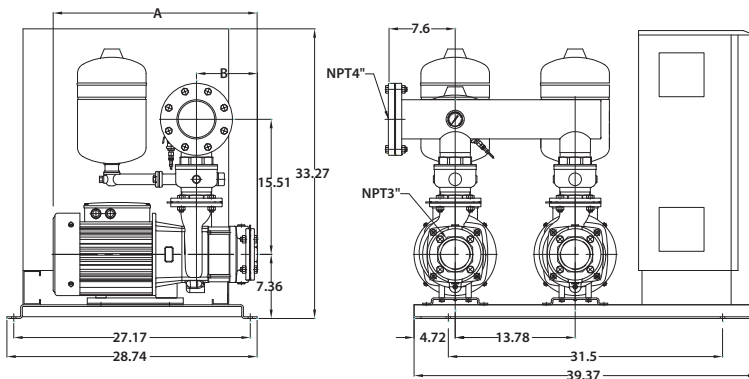
## Dimensions (in.)

• Fig. 7 TPH 25T2K-3KIC x2



Model	A	B	Pressure tank (gal)	Fig.	N.W. (lb)
TPH25T2KIC x2	21.18	4.72	3.17 x2	7	467.4
TPH25T3KIC x2	23.54	7.09	3.17 x2	7	492.9
TPH25T4KIC x2	23.54	7.09	3.17 x2	8	493.8
TPH25T5KIC x2	27.87	9.45	3.17 x2	8	556.9
TPH25T6KIC x2	27.87	9.45	3.17 x2	8	557.8

• Fig. 8 TPH 25T4-6K IC x2



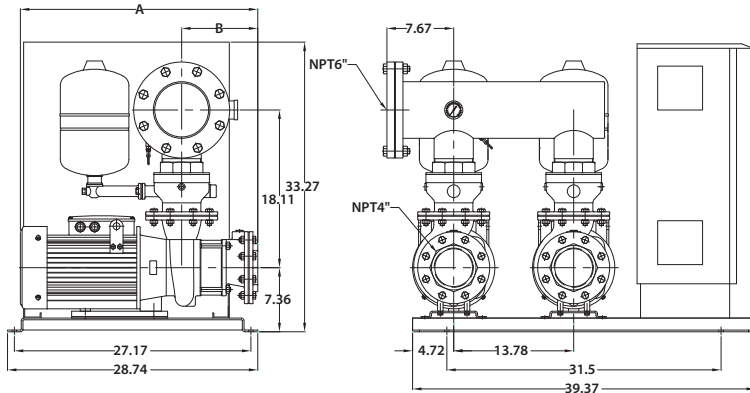
## Specifications - Duplex

Model	Inverter Controller		No-Fuse Breaker (A)	Pre-set Pressure (PSI)	Inlet (NPT)	Outlet (NPT)	Nominal Set Head (ft)	Nominal set Flow (GPM)
	Output Power (HP)	Voltage (V)						
TPH50T2.5K(S)IC x2	7½ x2	3Ø 230V	100	35	4"	6"	80	428
		3Ø 460V	40					
TPH50T4K(S)IC x2	10 x2	3Ø 230V	125	56	4"	6"	130	428
		3Ø 460V	60					
TPH50T5K(S)IC x2	15 x2	3Ø 230V	125	70	4"	6"	160	428
		3Ø 460V	75					

\*\* (S): Stainless steel series

## Dimensions ( in. )

• Fig. 9 TPH 50T – IC x2



Model	A	B	Pressure tank (gal)	Fig.	N.W. (lb)
TPH50T2.5KIC x2	22.95	6.38	3.17 x2	9	547.2
TPH50T4KIC x2	27.28	8.74	3.17 x2	9	644.2
TPH50T5KIC x2	29.25	8.74	3.17 x2	9	684.3