

# Tonkaflo\* Pumps

## AS Series



Figure 1: Tonkaflo Pumps

## Tonkaflo AS Pumps

The AS Series (Figure 1) combines the benefits of Tonkaflo, the industry-leading pump, with the durability of all stainless steel construction. The AS Series is a multi-stage, centrifugal pump with an all stainless steel liquid end mounted on a high thrust bearing frame. Engineered to be efficiently driven by a standard motor, each of the AS Series pumps offers dependable performance and long life. And with over 200 standard models, there is an AS Series pump to fit almost any 50 Hz or 60 Hz application.

Especially designed to meet tough industrial demands, AS Series pumps tolerate the most punishing applications and harshest environments. Ideal for membrane system applications, AS Series pumps also excel in industrial boost applications such as water soluble machine coolants, sanitizing systems and higher temperature water recirculation.

## Features and Benefits

- All Stainless Steel Construction makes AS Series pumps more durable and less susceptible to operator error. AS Series pumps are also chemi-

cally compatible with hydrocarbons, and can perform within a greater temperature range than the standard Tonkaflo SS Series.

- Fabricated Sheet Metal Stages require less maintenance, and eliminate the need to balance pump impellers. The end result is smoother operation, less vibration and longer pump life.
- Separate Bearing Frame increases pump reliability and life because there is no thrust load on the motor. In addition, this feature allows AS Series pumps to be powered by standard motors.
- Modular Liquid End allows service of the mechanical seal without disassembling the liquid end of the pump. The AS Series' modular design also facilitates service of both pump and bearing frame, and permits design flexibility when positioning piping.
- Industry Standard Mechanical Seal on pump inlet delivers higher boost pressure capacity and longer seal life, and simplifies the specifying and finding of replacement parts.
- Victaulic Connections reduce piping stress and make the installation of AS Series pumps easier.

## General Specifications

### Connections

- 1.25-inch Victaulic (400-2500 Series)
- 2.0-inch Victaulic-Inlet, 1.5-inch Victaulic-Discharge (4000 Series)
- 3.0-inch Victaulic (8000, 13500 Series)
- 4.0-inch Victaulic-Inlet, 3.0-inch Victaulic-Discharge (2100 Series)



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- 4.0- or 6.0-inch Victaulic-Inlet, 4.0-inch Victaulic-Discharge (40000 Series)

**Power<sup>2</sup>**

- 60 Hz - 3 phase (208-230/460 volt)
- 60 Hz - 1 phase (115/208-230 volt)
- 50 Hz - 3 phase (190/380 volt)
- 50 Hz - 1 phase (110/220 volt)

<sup>2</sup>575 volt and 380 volt 60Hz as well as 220 and 415 volt 50Hz are available on request.

**Table 1: Standard Models Available**

60 Hz	50 Hz
(6) 400	(5) 400
(6) 1600	(6) 1600
(6) 2500	(5) 2500
(6) 4000	(7) 4000
(7) 8000	(8) 8000
(5) 13500	(6) 13500
(6) 21000	(5) 21000

**Table 2: Standard Models**

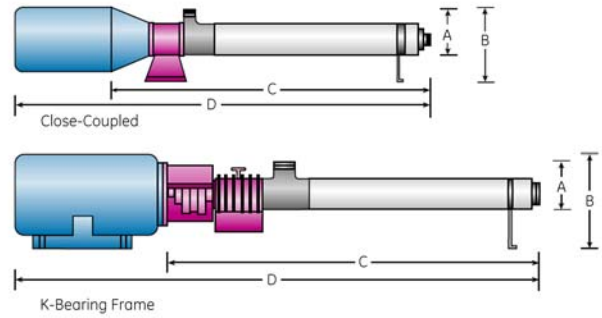
Motor	Standard Air-Cooled NEMA Motors (3500 RPM)
Mounting	Horizontal (all), Vertical (limited)
Capacity	1.4 to 500 gpm (0.32 to 113.5m <sup>3</sup> /hr)
Pressures	up to 535 psid (36.9 bar)
Total Discharge Head Pressure	up to 1000 psig (69.0 bar)
Maximum Operating Temperature	200°F (93°C) (limited flow range)

**Table 3: Materials of Construction**

Pump Shell	304SS
Diffusers and Impellers	304SS
Shaft	304SS
Discharge Housing	304/316SS
Inlet Housing	304/316SS
Seal Elastomers	Standard: Buna-N/Optional: EPDM, Viton <sup>1</sup>
40K Seal Elastomers	Standard: Teflon <sup>1</sup>
Shaft Bearings & Stage Seals	Standard: Buna-N/Optional: Teflon <sup>1</sup>
2 40K Shaft Bearings & Stage Seals	Standard: Teflon <sup>1</sup>
Mechanical Seal	John Crane
Standard:	Buna-N, Carbon-Ceramic Seal

<sup>1</sup> Viton and Teflon are trademarks of E.I. DuPont de Nemours and Company, Inc.

**Pump Specifications**



**Figure 2: Pump Specifications**

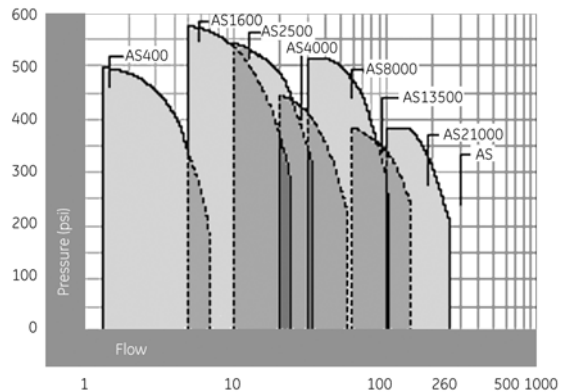
**Table 4: Close-Coupled Pumps**

Model	A	B	C	D
AS400	Inches 10.0 (mm 101.6)	7.6 (193.0)	19.5-72.8 (495.3-1849.1)	29.0-87.3 (736.6-2217.4)
AS1600	4.0 (101.6)	7.6 (193.0)	19.5-64.5 (495.3-1638.3)	29.0-79.0 (736.6-2006.6)
AS2500	4.0 (101.6)	7.6-9.5 (193.0-241.3)	19.5-66.25 (495.3-1682.8)	29.0-83.5 (736.6-2120.9)
AS4000	4.0 (101.6)	8.2-9.5 (208.3-241.3)	29.0-101.3 (736.6-2573.0)	38.5-118.5 (977.9-3009.9)
AS8000	5.4 (137.2)	8.8-10.5 (223.5-266.7)	28.8-44.8 (731.5-1137.9)	42.8-66.3 (1087.1-1684.0)
AS13500	5.4 (137.2)	8.8-10.5 (223.5-266.7)	32.3-51.5 (820.4-1308.1)	46.8-73.0 (1188.7-1854.2)
AS21000	5.6 (142.2)	10.8 (274.3)	33.5-41.3 (850.9-1049.0)	50.8-62.8 (1290.3-1595.1)

**Table 5: K-Bearing Frames**

Model	A	B	C	D
AS800	Inches 6.0 (mm 152.4)	10.5-11.3 (266.7-287)	57.6-71.2 (1463-1808.5)	78.2-94.8 (1986.3-2407.9)
AS13500	6.0 (152.4)	10.5-12.3 (266.7-312.4)	64.0-89.5 (1625.6-2273.3)	84.6-114.8 (2148.8-2915.9)
AS21000	6.3 (160)	11.5-13.5 (292.1-342.9)	51.2-102.1 (1300.5-2593.3)	73.3-129.0 (1861.8-3276.6)
AS40000	6.6 (167.6)	12.5-15.5 (317.5-393.7)	44.3-89.0 (1602.7-2260.6)	63.1-119.1 (1602.7-3025.1)

For 50 Hz and specific performance data please see individual performance curves. Dimensions vary by model.



**Figure 3: Performance Curve**