

# Tonka flo\* Pumps

## SS Series



**Figure 1: Tonkaflo SS Series pumps**

As the industry standard for reverse osmosis (RO), Tonkaflo SS Series pumps (Figure 1) are backed by years of proven experience. The SS Series is a stainless steel multi-stage centrifugal pump with Noryl\* plastic impellers. To reduce pump wear, SS Series pumps operate at lower speeds than single-stage pumps while achieving equivalent boost pressures. The SS Series’ flexible, multi-stage design allows users to achieve their exact pressure requirements by adding or removing stages.

Specifically designed to meet the challenges of industrial membrane systems, SS Series pumps excel in any high-pressure application. TONKAFLO SS Series pumps are ideal for water boost and recirculation in buildings, high-pressure transfer, and spray applications.

### Features and Benefits

- **Corrosion-Resistant Construction** including Noryl plastic diffusers and impellers and 316 stainless steel pump case and shaft ensure long-lasting performance.
- **Modular Liquid End** allows service of the mechanical seal without disassembling the liquid end of the pump. The SS Series’ modular design

also simplifies service of both pump and bearing frame, and permits design flexibility when positioning piping.

- **Wide Selection** of pump models is available. There is an SS Series pump to fit any pressure or flow.
- **Separate Bearing Frame** increases pump reliability by eliminating thrust load on the motor. In addition, this feature allows the SS Series pumps to be powered by standard motors.
- **Customized** SS Series pumps are available on a pre-approved and limited basis. Contact your local sales office for availability and pricing.
- **Industry Standard Mechanical Seal** on pump inlet delivers higher boost pressure capability and longer seal life, and simplifies specifying and finding replacement parts.
- **High Pressure Reverse Osmosis** - The SS Series pumps feature the K-Bearing frame which eliminates alignment problems by close-coupling the pump to motors up to 100 Hp.

**Table 1: Operating Specifications**

Motor	Standard Air-Cooled NEMA Motors (3500 rpm)
Capacity	1.4 to 300 gpm (5.3 to 1136 Lpm)
Pressures	up to 700 psid (48.3 bar)
Total Discharge Head Pressure	up to 1000 psig (69 bar)
Maximum Operating Temperature	Standard: 125°F (52°C)
Mounting	Horizontal (all), Vertical (limited)

# General Specifications

**Table 2: Standard Models Available**

60 Hz	50 Hz
(9) 500	(10) 500
(10) 1800	(10) 1800
(7) 2800	(7) 2800
(9) 5500	(13) 5500
(11) 8500	(12) 8500
(9) 12500	(13) 12500
(10) 24000	(10) 24000

**Table 3: Materials of Construction**

Pump Shell	316 Stainless Steel
Diffusers and Impellers	Standard: Noryl
Shaft	316 Stainless Steel
Discharge Housing	316 Stainless Steel
Inlet Housing	316 Stainless Steel
Seal Elastomers	Standard: Buna-N/Optional: EPDM
Shaft Bearings	Standard: Buna-N/Optional: Teflon
Mechanical Seal	John Crane Standard: Buna-N, Carbon-Ceramic Seal

<sup>1</sup>Teflon is a registered trademark of DuPont

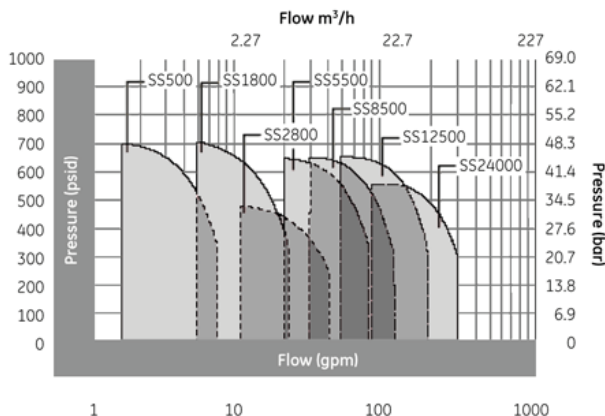
## Connections

- 0.75-inch (19.1 mm) FNPT (500 Series)
- 1.25-inch (31.8 mm) Victaulic (1800, 2800 Series)
- 3.0-inch (76.2 mm) Victaulic (5500, 8500, 12500 Series)
- 4.0-inch (101.6 mm) Victaulic-Inlet (24000 Series)
- 3.0-inch (76.2 mm) Victaulic-Discharge (24000 Series)

## Power<sup>2</sup>

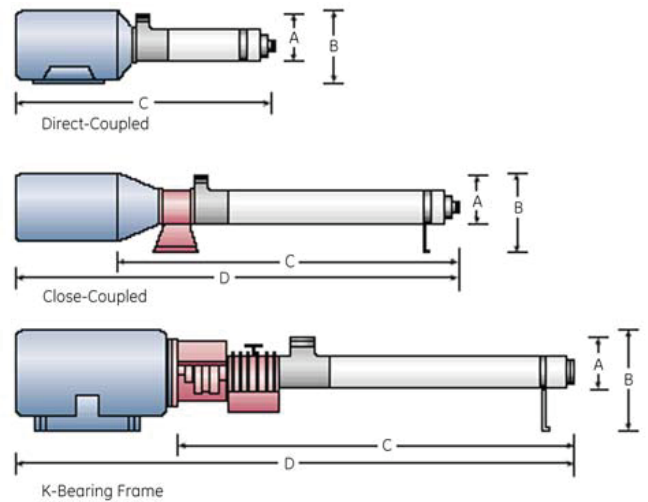
- 60 Hz - 3-phase (208-230/460 volt)
- 60 Hz - 1-phase (115/208-230 volt)
- 50 Hz - 3-phase (190/380 volt)
- 50 Hz - 1-phase (110/220 volt)

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



**Figure 2: Performance Curve (60Hz) (Logarithmic Scale)**

# Pump Specifications



**Figure 3: Pump Specifications**

**Table 4: Direct Coupled Pumps**

Model		A	B	C
SS 500	Inches (mm)	3.6 (91)	5.8 (147)	19.1-46.6 (485-1184)
SS 1800		3.6 (91)	6.6 (168)	21.4-35.1 (544-892)

**Table 5: Close-Coupled Pumps**

Model		A	B	C	D
SS 500	Inches (mm)	3.6 (91)	6.8 (173)	38.6-61.7 (980-1567)	49.8-75.6 (1265-1920)
SS 1800		3.6 (91)	7.6-9.4 (193-239)	32-67.3 (813-1709)	46-82.8 (1168-2103)
SS 2800		3.6 (91)	7.6-9.4 (193-239)	34.8-88.9 (884-2258)	46-103.4 (1168-2626)
SS 5500		5.4 (137)	8.8-10.5 (224-267)	27.6-47 (701-1194)	41.5-62.5 (1054-1588)
SS 8500		5.4 (137)	8.8-10.5 (224-267)	29.6-47 (752-1194)	43.5-61.5 (1105-1562)
SS 12500		5.4 (137)	8.8-10.5 (224-267)	27.8-41.6 (706-1057)	41.7-56.1 (1059-1425)
SS 24000		5.4 (137)	10.8 (274)	30.8-39.4 (782-1001)	43.2-61.4 (1097-1560)

**Table 6: K-Bearing Frames**

Model		A	B	C	D
SS 5500	Inches (mm)	5.4 (137)	10.5-11.3 (267-287)	49.4-101.3 (1255-2573)	64.2-125 (1631-3175)
SS 8500		5.4 (137)	10.5-12.3 (267-312)	45.4-102.1 (1153-2593)	60.2-127.4 (1529-3236)
SS 12500		5.4 (137)	10.5-13.3 (267-338)	50.0-122.7 (1270-3117)	70.6-149.6 (1793-3800)
SS 24000		5.4 (137)	11.5-13.5 (292-343)	49.8-96.6 (1265-2454)	71.9-123.5 (1826-3137)