



Flygt SY 4840

Technical specification

Product description

Design

The Top Entry Agitators (TEA) have a modular design. Impellers, shaft lengths, and other parts are available in several combinations for adapting to a wide range of agitation scenarios.

The drive unit is an integral parallel gear motor, supported by a rigid housing with a spherical roller bearing.

The shaft end can be free over hung, or supported by a bottom support unit.

The agitator can be equipped with one or two impellers in a combination of the following types: A self cleaning Flygt aluminum impeller, suitable for fluids containing long fibers or rags, and a 2- or 3-bladed stainless steel hydrofoil impeller, intended for mixing of liquid and sludge. The impellers are mounted along the shaft at the desired level between the couplings.

Denomination

- SY 4840.010
- SY 4840.020
- SY 4840.030

Approvals

SY 4840.010	CE, IEC, 400 V, 50 Hz
SY 4840.020	NEMA, 460 V, 60 Hz
SY 4840.030	CSA, 575 V, 60 Hz

Intended use and installation

Data	Description
Installation	Dry installed on top
Application	Secondary treatment, sludge pits, flocculation, and flash mixing
Liquid temperature	Maximum 40°C (104°F), aluminum blades Maximum 80°C (176°F), steel blades
pH of the mixed liquid	6-9, aluminum blades 1-12, steel blades
Liquid density	Maximum 1100 kg/m ³

Gear motor data

Description

Flygt top entry agitators are equipped with Siemens, Flender MOTOX gear motors. All electric motors are equipped with PTC-thermistors to T4. The gear motors are designed for continuous operation S1, with constant load according to EN 60034-1. The oil must be of the viscosity ISO VG class stated in the rating plate. Mineral oil changes once a year and Synthetic oil (PG) every two years. Read and follow carefully the supplier's Operating Instructions.

- The geared motors are supplied with IP55 protection to standard IEC 60529 and IEC 60034-5
- Monitoring equipment: PTC-thermistors in windings

- Rated power specified to continuous duty (S1) or inverter-fed operation (S9) according to EN 60034-1
- Coolant temperature of 40°C (104°F) and a site altitude of 1,000 m (3,280 ft) above sea level

For a complete list of the available motors, contact the sales representative.

Table 1: Motor range

Electrical motor standard	Power (kW)	Speed (rpm)	Rated current (A)
CE 400V, 50Hz	0.75-4.0	13-179	1.81-8.2
UL-R_CSA 460V, 60Hz	0.75-4.0	13-187	1.71-7.3
UL-R_CSA 575V, 60Hz	0.75-4.0	13-187	1.37-5.8

Parts and material specification

Material

Steel grades and surface treatment provide good corrosion resistance. From an appearance point of view, these grades are usually sufficiently resistant in most waste water treatment plant environments.

Part	Material
Housing	Cast iron
Agitator driveshaft	Stainless steel 2321: ASTM/AISI 431, EN 1.4057
Agitator shaft	Stainless: ASTM/AISI 316L, EN 1.4436
Shaft couplings	Stainless: ASTM/AISI 316L, EN 1.4436
2- or 3-bladed steel impellers	Stainless: ASTM/AISI 316L, EN 1.4436
Flygt aluminum banana impeller	Aluminum, AA A413.0
O-rings	Nitrile rubber
Packing	Nitrile rubber

Surface treatment

The following surface treatments are used:

- The dry installed gear motor and gear housing are coated especially for outdoor installations.
- Coating on the gear motor is 2-component 2C PUR paint finish color NCS 5804-B07G.
- The housing is epoxy type coated and with a mean coating film thickness of 100 µm (ISO 2808) Color NCS 5804-B07G semi-gloss (ISO 2813).
- Finishing coat of aluminum hub and propeller: Wear resistant epoxy powder coating.

Impeller alternatives



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Table 2: Aluminum impeller

Part	Description
Hub	Aluminum
Blades	Aluminum
Fastening method	Fastened to shaft with couplings
Diameter	1,200 mm (47 in)



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Table 3: Hydrofoil impeller

Part	Description
Hub	High alloy steel
Blades	High alloy steel, 2 or 3 blades
Fastening method	Fastened to shaft through tapered sleeves
Diameter	800 mm (31.5 in) 1,000 mm (39.4 in) 1,200 mm (47 in) 1,500 mm (59 in)

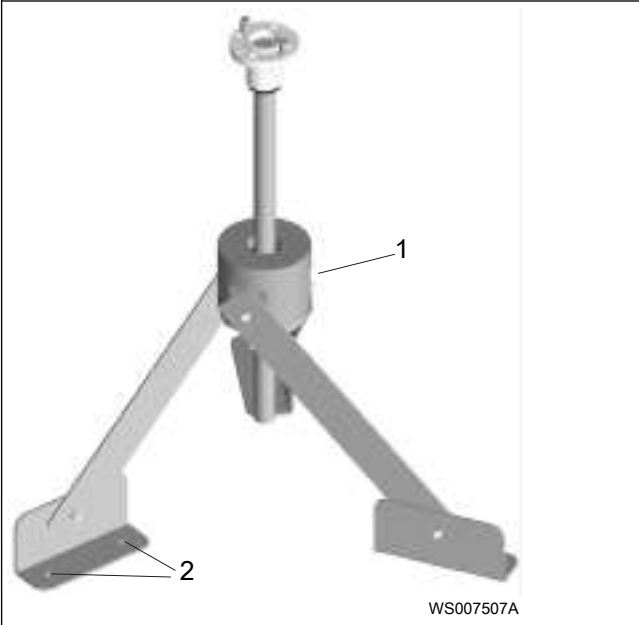
Agitator shaft

Shaft parts	Description and length
	<ol style="list-style-type: none"> 1. Carrier pins 2. Removable couplings 3. High alloy steel 4. Tapered clamping sleeve
	Shaft lengths: 500 mm (19.7 in) 1,000 mm (39.4 in) 1,500 mm (59 in) 2,000 mm (79 in) 3,000 mm (118 in) 4,000 mm (157 in)

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Bottom support unit

The bottom support unit is an option.

Parts	Description
	<p>Bottom support to stabilize long shafts, material SS2333 and SS304.</p> <ol style="list-style-type: none"> 1. Replaceable polyamide wear sleeve 2. Holes for anchoring bolts

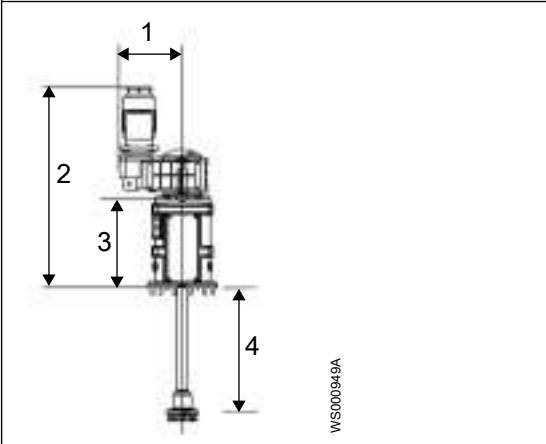
Weight

All agitator units are tailored to their purpose with adapted shaft lengths. Maximum total weight of SY 4840 is approximately 645 kg (1,422 lbs). Weight with one propeller of 1,500 mm (59 in) diameter, and 3,000 mm (118 in) shaft is approximately 250 kg (551 lbs).

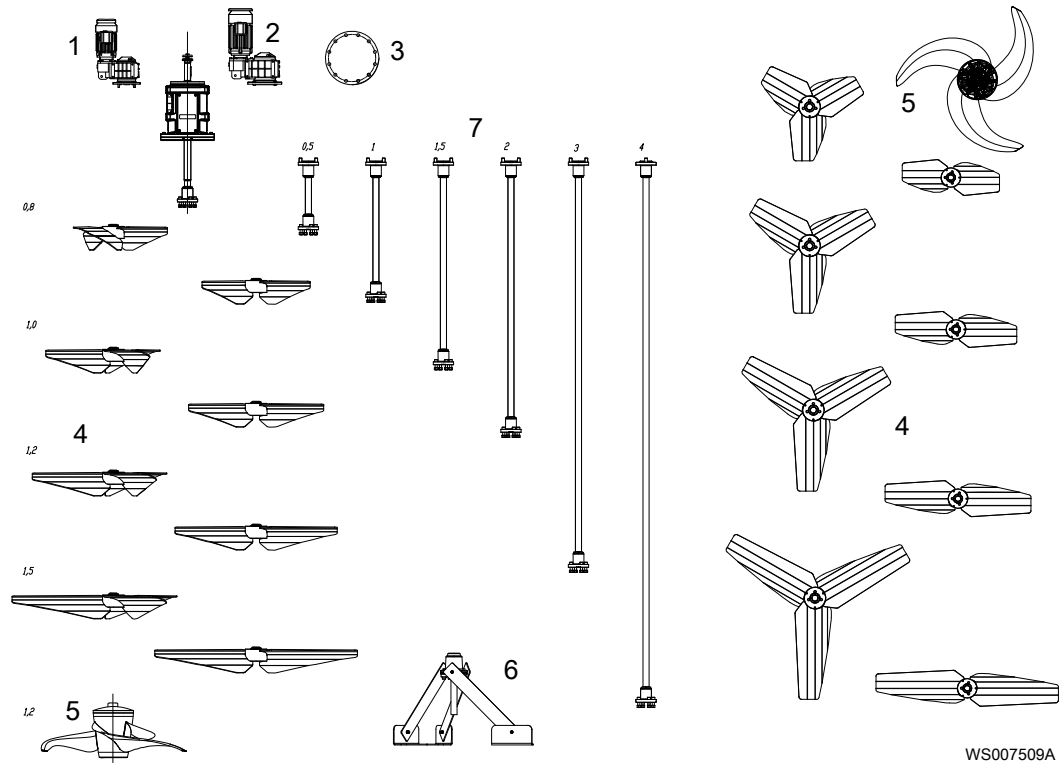
Height, drive unit

The drive unit consists of a gear motor housing and a driveshaft. Maximum drive unit measurements are shown in the figure.

The agitator shaft length under the drive unit varies according to the agitator application specification.

SY 4840	Dimensions
	<ol style="list-style-type: none"> 1. 412 mm (16 in) 2. 954 mm (37.6 in) 3. 394 mm (15.5 in) 4. 478 mm (18.8 in)

Modular details



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Parts	Description
1. F 48 2. F 68 3. Packing 4. Steel impellers 5. Flygt banana aluminum impeller 6. Bottom support unit 7. Shafts	For specifications, see the relevant section.

Service kit

Parts	Description
	1. Bolts 2. Retaining ring and puller 3. Eye bolts to hoist the agitator 4. Hook wrench 5. Puller

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Xylem Water Solutions
Manufacturing AB
361 80 Emmaboda
Sweden
Tel: +46-471-24 70 00
Fax: +46-471-24 47 01
<http://tpi.xyleminc.com>

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The original instruction is in English. All non-English instructions are translations of the original instruction.

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