Slurry Pumps

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The Sala-series of Vertical and Horizontal ST Pumps Recessed and Channel Impeller

metso minerals

The Sala-series of ST Pumps

The ST-Pump range consists of tough, general purpose Slurry Pumps particularly known for their Induced Flow impellers. The hydraulic design provides a very gentle handling of the slurry. The proven low attrition of pumped particles has made it the Industrial Standard for Carbon Transfer in Gold Leaching processes.
The "Cloggless" performance of the Induced Flow impellers also makes this product range ideal for all applications where large or long, stringy solids will be handled.

Vertical Torque Flow Pumps Type STGVA

Vertical wet pit design for pulpy solids and corrosives. With single suction and no shaft sealing the STGVA pump offers outstanding design features.

Cantilever design

The heavy duty pump shaft moves freely under the bearing housing. There are no journal bearings below the liquid level to maintain. The pump has no stuffing box and thus does not require sealing water.

Metallurgy

Hydraulic parts are available from stock in cast iron and stainless steel and high chrome. Some sizes are also available with rubber lined or polyurethane wear parts. The pump frame assemblies below the base plate are available in carbon steel and stainless steel. Other materials are available upon request.

Vortex impeller available

This recessed impeller is located out of the flow pattern. The pumping effect is performed by the vortex that the impeller generates in the slurry. The passage through the vortex pump is fully open, therefore it is especially suited for pumping fibres and similar material.

Impeller adjustment

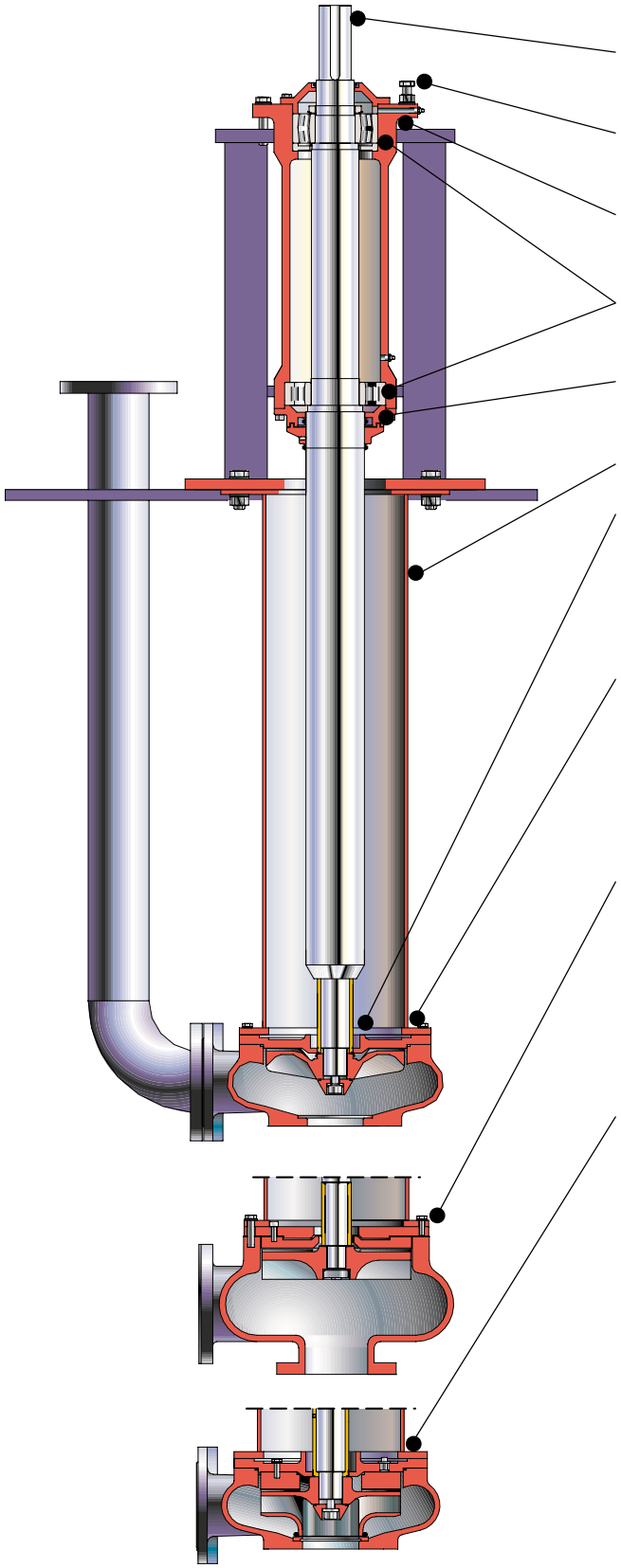
Easily adjustable shaft allows setting of pump clearances for maximum performance.

V-belt drive

This permits simple cost-effective adjustment of pump flow rate.

Designed for severe pumping

'STGVA' pumps are designed for severe pumping problems of corrosion, abrasion and temperature extremes in the chemical, minerals processing, pulp and paper, brewing, food and other industries.



STGVA Vertical Pumps

Heavy Duty, large cantilevered shaft reduces deflection and provides stable mechanical operation.

Simple impeller clearance adjustment from the top of the pump.

Cast Iron bearing housing is piloted in the upper frame to assure perfect alignment.

Oversized grease lubricated roller bearings are designed to provide up to 60,000 hours of trouble free operation.

Grease-purged labyrinth and double V-ring seals effectively eliminate lower bearing contamination.

Rigid lower frame minimizes pedestal deflection.

No submerged bearing or stuffing box provides virtually maintenance-free operation.

Wet-end available in three different impeller configurations. Impellers are keyed onto shaft.

Recessed impeller – large clearance between casing and impeller – well suited for pumping fibrous slurries (paper stock, wood chips, municipal sludge, etc.), aerated or frothy liquids (recessed impeller will not air lock) and any application where the pump is required to pass the occasional large sizes.

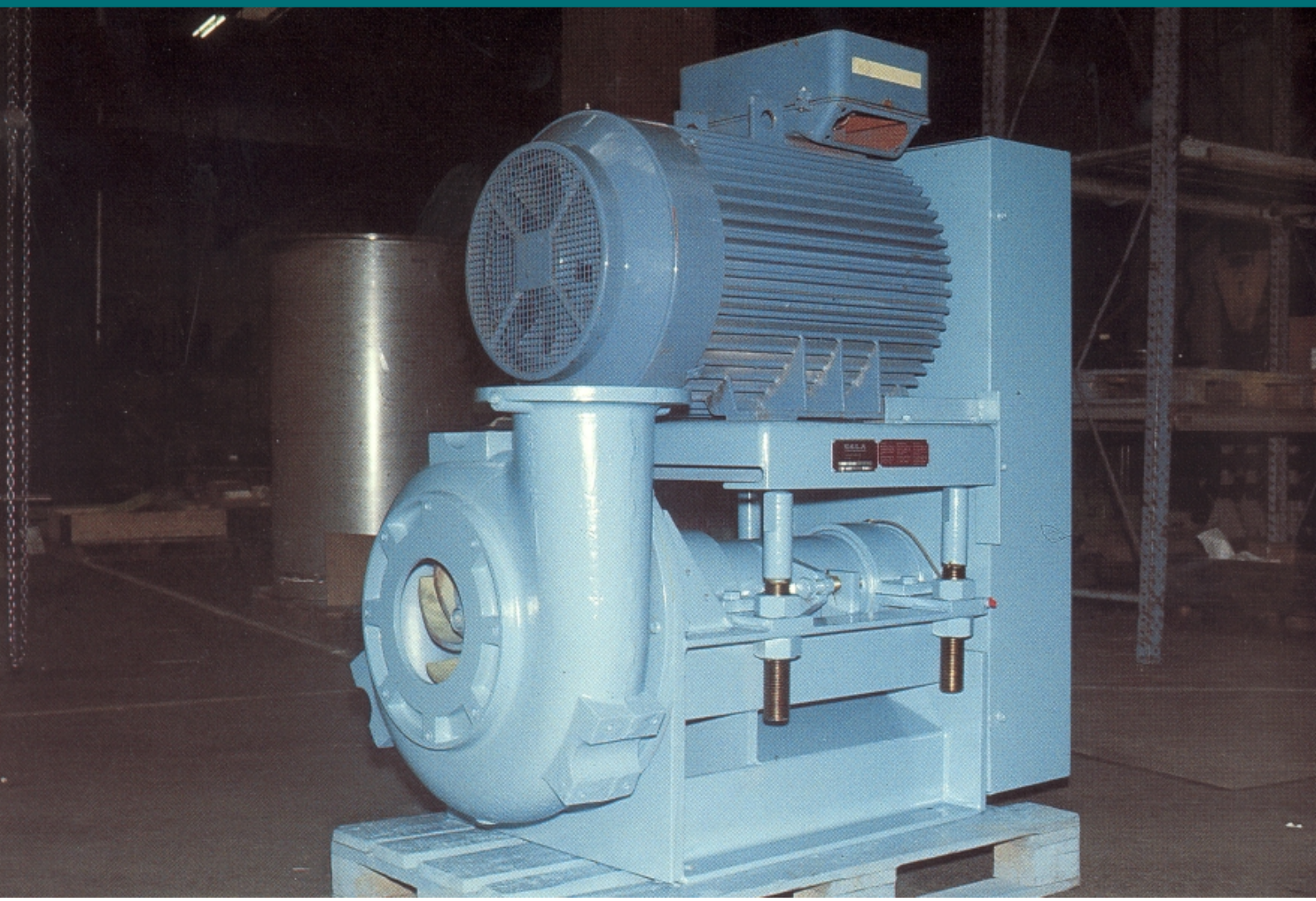
Fully-recessed impeller in casing providing full flow through capability and provides "gentle" handling of solids in suspension to prevent the degradation of friable solids (e.g. – carbon transfer in carbon-in-pulp gold recovery process). Also well-suited for handling slurries containing high concentrations of stringy, fibrous solids. Available in discharge sizes of 2", 3" and 4".

Channel impeller – fully closed with large passages suitable for pumping liquids and slightly abrasive slurries and sludges. High efficiency due to closed impeller design. Available in discharge sizes of 3", 4", 5", 6", 8", 10" and 14".

Materials of construction – all pumps are available with cast iron, stainless steel. Some sizes are also available High Chrome, CD4MCU and Elastomer lined wear parts.

Drive – pumps can be supplied with V-belt drive or direct drive configuration.

Optional suction pipe – allows additional extension of overall length by 1.8 m.



Horizontal Torque Flow Pumps Type STHM

The STHM pumps are also available with alternative impeller designs which allow optimum adaption to different media - from heavy suspensions to clean liquids.

Vortex or channel impeller

Vortex impeller for heavy suspension and liquid/gas mixture. Channel impeller for light suspensions and clean liquids.

V-belt drive

This permits alteration of the pump's performance without opening the pump.

Bearing assembly

Cartridge type with grease lubricated roller bearings designed for more than 60 000 operating hours.

Shaft seal

Standard stuffing box with seal water. Optional mechanical seals.

Pumping parts

Standard pumping parts in cast iron, stainless steel, high chrome and some sizes in Polyurethane or rubber lined. Other materials are available upon request.

Motor bed plate

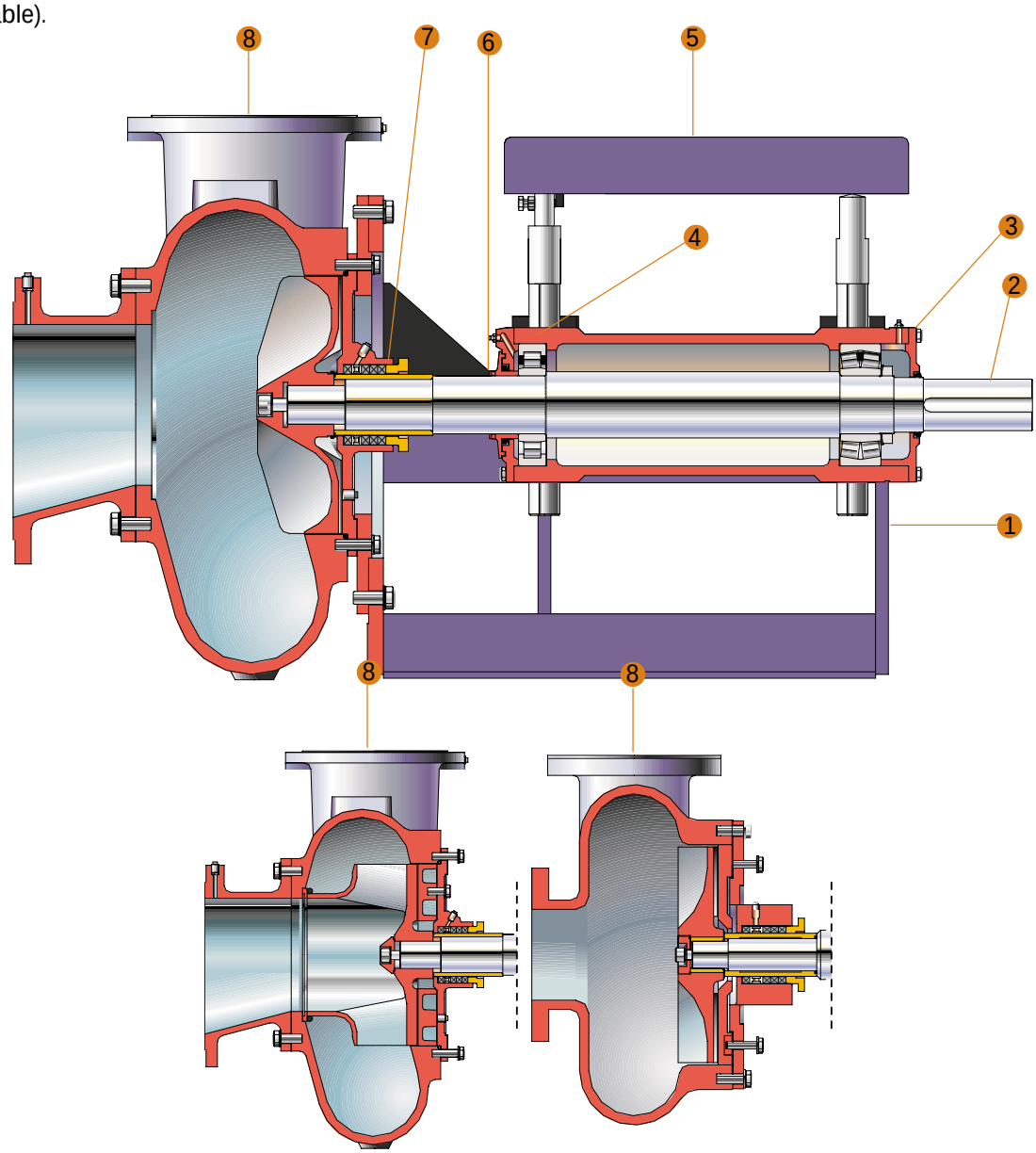
Overhead motor bed plate gives compact installation with extra motor protection and simple belt tensioning.

Vortex impeller

The vortex impeller is recessed in the back of the pump casing, giving a free passage through the casing. The pump can normally pump anything that can pass through the connecting pipes.

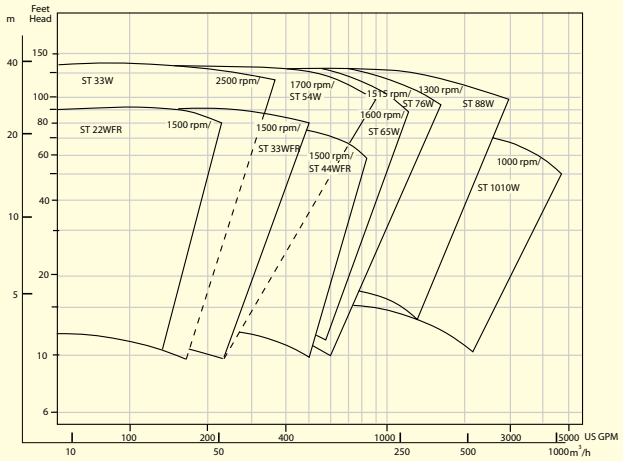
STHM Horizontal Pumps

1. Fabricated steel base is fully machined to provide perfect alignment and concentricity.
2. Large diameter oversized shaft minimizes deflection and provides smooth running, stable operation.
3. Simple impeller clearance adjustment from drive side of pump.
4. Heavy duty grease lubricated roller bearings enclosed in a cartridge type bearing housing.
5. Overhead motor plate for V-belt drive operation minimizes space requirements (side by side baseplates or common baseplate for direct drive also available).
6. Grease purge labyrinth and double V-ring seals prevent the ingress of dirt and liquid into the bearing house.
7. Conventional packed stuffing box is standard. Mechanical seal available as an option.
8. Impeller configurations identical to STGVA vertical pumps – i.e. recessed, fully recessed or channel impeller. Casing and impeller are interchangeable between identical sizes of vertical and horizontal pumps.

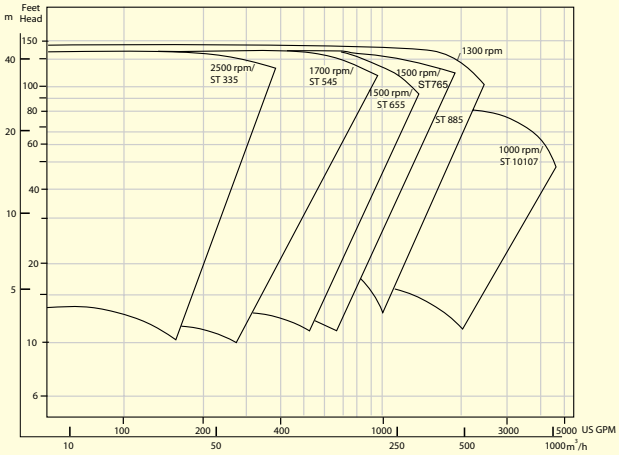


Channel impeller Fully recessed Impeller

Selection of pump size

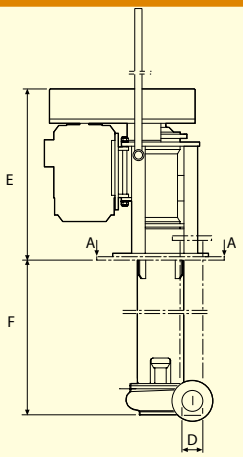


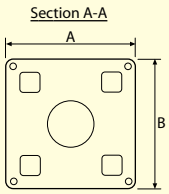
Vortex impeller



Channel impeller

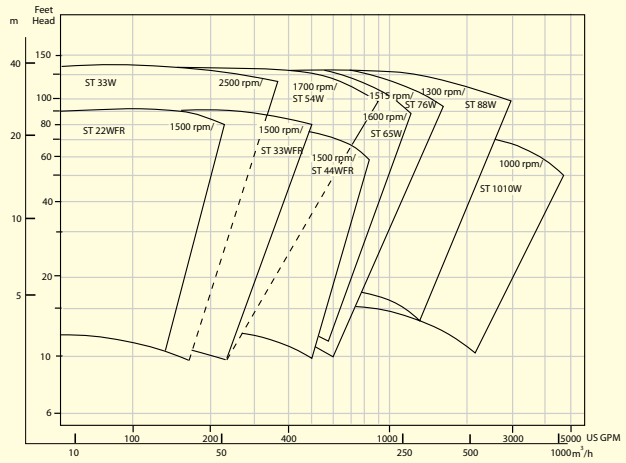
Pump Dimensions



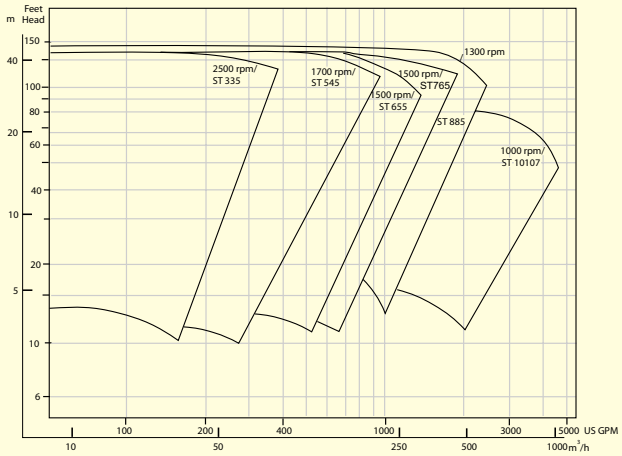


Pump type STGVA	Frame	I.	Measures in inch (mm) A	B	D	E	F	Max.motor nema hp	(IEC kW)	Mass lbs (kg)
22WFR	L80		24 (600)	24 (600)	2 (51)	32 (810)	35 (870)	286T 30	(180 L) (22)	770 (350)
22WFR	L120/150/180		24 (600)	24 (600)	2 (51)	32 (810)	50/62/74 (1270/1570/1870)	286T 30	(180 L) (22)	850/905/960 (385/410/435)
33WFR	L80		24 (600)	24 (600)	3 (76)	32 (810)	36 (900)	286T 30	(180 L) (22)	795 (360)
33WFR	L120/150/180		24 (600)	24 (600)	3 (76)	32 (810)	51/63/75 (1300/1600/1900)	286T 30	(180 L) (22)	870/925/980 (395/420/445)
44WFR	L80		24 (600)	24 (600)	4 (102)	32 (810)	37 (930)	286T 30	(180 L) (22)	820 (370)
44WFR	L120/150/180		24 (600)	24 (600)	4 (102)	32 (810)	52/64/76 (1330/1630/1930)	286T 30	(180 L) (22)	890/945/1000 (405/430/455)
33	L80		24 (600)	24 (600)	3 (76)	32 (810)	31.5 (800)	286T 30	(180 L) (22)	730 (330)
33	L120/150/180		24 (600)	24 (600)	3 (76)	32 (810)	48/59/71 (1200/1500/1800)	286T 30	(180 L) (22)	805/860/915 (365/390/415)
54	L80		30 (750)	24 (600)	4 (102)	32 (810)	33 (837)	324T 40	(200 L) (30)	880 (400)
54	L120/150/180		30 (750)	24 (600)	4 (102)	38 (955)	48/59/71 (1200/1500/1800)	365T 75	(250 S) (55)	1375/1420/1465 (625/645/665)
65	L80		35 (900)	30 (750)	5 (127)	33 (810)	34 (865)	324T 40	(200 L) (30)	1035 (470)
65	L120/150/180		35 (900)	30 (750)	5 (127)	38 (955)	48/60/72 (1230/1530/1830)	365T 75	(250 S) (55)	1545/1585/1630 (700/720/740)
76	L110		35 (900)	30 (750)	6 (152)	38 (955)	44 (1112)	365T 75	(250 S) (55)	1630 (740)
76	L150/L180		35 (900)	30 (750)	6 (152)	48 (1210)	59/71(1505/1805)	444T 125	(280 S) (90)	2730/2900 (1240/1315)
88	L110		47(1200)	35 (900)	6 (152)	38 (860)	44 (1122)	365T 75	(250 S) (55)	1980 (900)
88	L150/180		47(1200)	35 (900)	8 (203)	48 (1215)	60/71 (1515/1815)	445T 150	(280 M)(110)	3080/3250 (1400/1475)
1010	L110		54(1360)	35 (900)	10 (254)	38 (960)	48 (1230)	365T 75	(250 S) (55)	2200 (1000)
1010	L150/180		54(1360)	35 (900)	10 (254)	48 (1215)	64/76 (1623/1923)	445T 150	(280 M)(110)	3300/3470 (1500/1575)
1414	L150/180		60(1525)	54 (1360)	14 (356)	55 (1400)	59/71 (1513/1813)	447T 200	(280 S) (90)	6170/7270 (2800/3300)

Selection of pump size

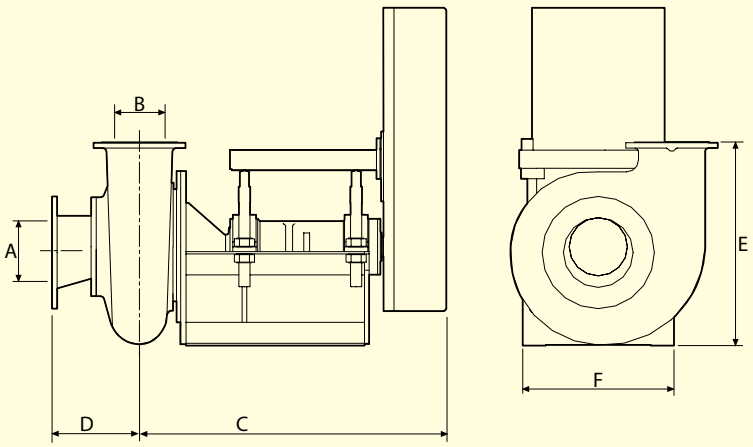


Vortex impeller*



Channel impeller**

Pump Dimensions



Pump type STHM, size	Measures in inch (mm) A	B	C	D	E	F	Max.motor nema hp	(IEC)	(kW)	Weight lbs kg
22WFR	2 (51)	2 (51)	31.5 (802)	4 (100)	18.3 (465)	15.4 (390)	286T	30	(180 L) (22)	330 (150)
33WFR	3 (76)	3 (76)	31.5 (802)	4.5 (116)	19.3 (490)	15.4 (390)	286T	30	(180 L) (22)	355 (160)
44WFR	4 (102)	4 (102)	32 (813)	5.2 (133)	19.9 (505)	15.4 (390)	286T	30	(180 L) (22)	385 (175)
33	3 (76)	3 (76)	30.2 (768)	7.5 (190)	18.5 (470)	15.4 (390)	286T	30	(180 L) (22)	330 (150)
44	4 (102)	4 (102)	31.5 (803)	8.3 (210)	20 (510)	17 (430)	326T	50	(225 S) (37)	650 (295)
54	6 (152)	4 (102)	40.7 (1035)	8.3 (210)	20.9 (530)	17 (430)	326T	50	(225 S) (37)	650 (295)
65	6 (152)	5 (127)	45.5 (1159)	8.7 (222)	25.5 (650)	19.7 (500)	365T	75	(250 S) (55)	840 (380)
76	8 (203)	6 (152)	46 (1169)	9.5 (241)	26.4 (670)	19.7 (500)	365T	75	(250 S) (55)	915 (415)
88	10 (254)	8 (203)	49 (1248)	11 (279)	31.8 (810)	25.6 (650)	444T	125	(280 S) (90)	1050 (475)
1010	12 (305)	10 (254)	50.8 (1292)	14.8 (375)	34.5 (880)	25.6 (650)	444T	125	(280 S) (90)	1155 (525)
1414	14 (356)	14 (356)	62.5 (1590)	20 (511)	46.3 (1175)	29.5 (749)	447T	125	(280 S) (90)	1600 (725)

*Pumps with vortex impeller are identified with W, e.g. STHM 76 W.

**Pumps with channel impeller are identified with a digit, e.g. STHM 76 5. The digit specifies number of vanes in the impeller.

Metso Slurry Pumps

Our Range:

Orion Series of Horizontal Rubber and Metal Lined Pumps
HR/HM, Heavy Duty Pumps
MR/MM, Mining Duty Pumps

Thomas Series of Horizontal Rubber and Metal Lined Pumps
XR/XM, Extra Heavy Duty Pumps
Simplicity Slurry Pumps
Matri-X Series
Dredge Pumps

Sala Series of Vertical & Horizontal Rubber and Metal Lined Pumps
VF, Froth Pumps
VS, Sump Pumps
VT, Tank Pumps
ST, Recessed & Channel Impeller Pumps

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