



VSMM 350 L150

The SALA Series of Vertical Sump Pumps



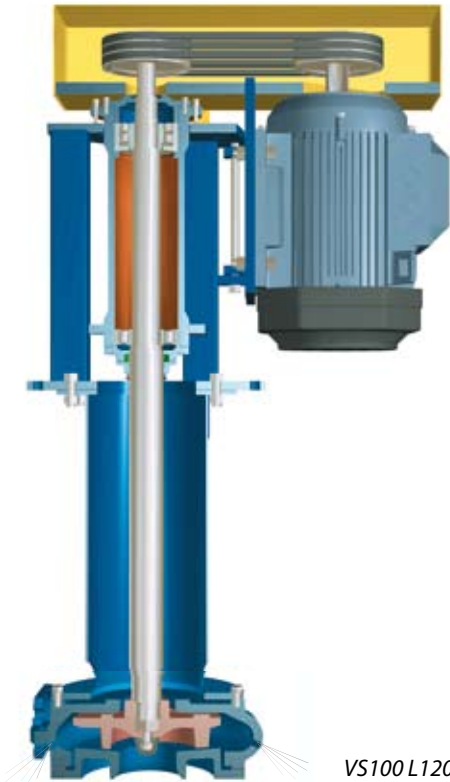
Rubber Lined & Hard Metal Vertical Sump Pumps

All Metso Sump Pumps are designed specifically for abrasive slurries and feature a robust design with ease of maintenance.

Developed from the old SALA sump pump, VASA G model, the Metso type VS vertical sump is the next generation heavy duty sump pump.

Pump designation

VS 100 L120 O3S — Spray hole casing
 3 vane semi-open impeller
 Frame length (cm)
 Outlet size (mm)
 Pump Range



VS100L120O3S

Simple installation

With small sump pumps the recommended way of installation is to suspend the pump in the sump by the lifting bracket provided. Larger units are normally bolted to a permanent base plate. Pump bearings are located in a housing above the base plate for accessibility and protection. All pumps can run dry intermittently. Pumps with metal pump parts can run dry for an unlimited length of time. Special designs giving extended length, with the bearings below the base plate, are available on request.

Like its predecessor, the VS sump pump is one of the strongest, toughest and most reliable available on the market. For this reason the VS is preferred throughout the world by most heavy industries.

Pump designation

VSHM150 L120 C5
 5 vane closed impeller
 Frame length (cm)
 HM150 is the **horizontal pump** wear parts (150 is the inlet size, mm)
 Pump Range



VSHM150L120C5

Cantilever design

The heavy duty pump shaft is of cantilever design, hanging below the bearing housing. There are no submerged bearings, stuffing box or shaft seals. This design ensures minimum maintenance and eliminates the need for water flushing.

The pump shaft is mounted in grease lubricated roller bearings. Impeller clearance is maintained by external axial adjustment of the shaft/bearing assembly. Bearings have double seal protection against contamination.

Details of Design Features

Impeller and agitation options VS

Four different impeller and two agitation options are available for optimum performance.

Type O – The semi-open impeller provides better solids handling than the closed impeller design and is less sensitive to air locking on intermittent operation.

Type W – Vortex induced flow impeller for clogless pumping of long fibrous or coarse solids. It can be fitted into a casing with or without spray holes.

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

Type C – Closed impeller for higher heads and efficiencies.

Type A – Semi-open impeller and robust extended shaft with a slurry agitator. This design is best suited for coarse rapid settling solids and dredging type applications.

Type S – Pump casing with spray holes. The spray holes direct some of the slurry towards the sump bottom, thereby agitating settled solids.

Wet end

The “wet end” parts have large material sections for extra long wear life and are designed for the toughest of applications. Single volute and generous solids passage through the pump ensure safe and clogless operation. The “wet end” assembly is suspended from a tubular column below the bearing housing.

Materials

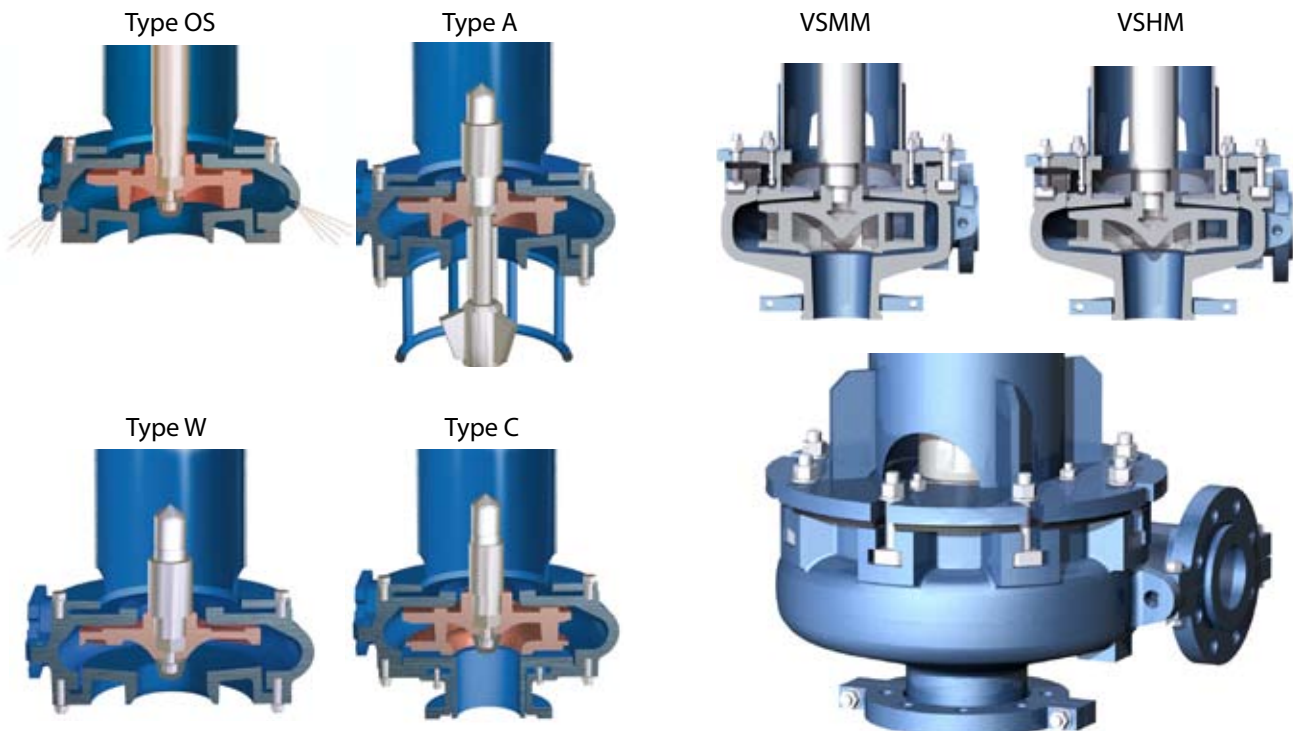
Standard pumps are supplied with parts in wear resistant natural rubber or High Chrome white iron alloy, with a nominal hardness of 600 BHN.

Other wear part materials available include elastomers in synthetic rubbers and polyurethane and metals such as 316 stainless steel and CD 4 MCu.

Parts in different materials are fully interchangeable and can be combined for optimum life.

The VSH and VSM pumps are a new combination of our classic VS sump pumps and our Orion series horizontal pump wet ends.

This provides a major advantage to the customer: the same wet end parts are used for both horizontal slurry pumps and sump pumps, thus reducing parts inventory and simplifying maintenance.



Typical Slurry Pump

Applications

- Floor sumps in process plants
- Mill scale pumping in steel work
- Pumping of machine tool cuttings
- Wood chips pumping

Drive

Pumps are supplied with a V-belt drive, motor and drive guard. The motor is mounted vertically, with shaft up, on an adjustable motor plate fitted beside the bearing housing.

Motor Size

Motor size and V-belt drive vary with the pump application. Minimum data required for an approximate pump, speed and drive motor selection are:

- Slurry flow rate
- Slurry density
- Total discharge head

Summary of design features

- Simple installation
- Cantilever design without submerged bearings or shaft seal
- Bearing assembly with double protection sealing arrangement to prevent bearing contamination
- Materials used are the very best available, providing both excellent wear properties and corrosion resistance
- Wear parts are available in a variety of different materials and fully interchangeable
- Range of impeller and casing options

We have developed a fully recessed induced vortex impeller for the VSHM pumps. This is specifically designed for carbon transfer in gold leaching processes because it provides the lowest possible attrition of the pumped active carbon particles.



VSHM 100 E250 C5 is a special design type with "E" extended shaft

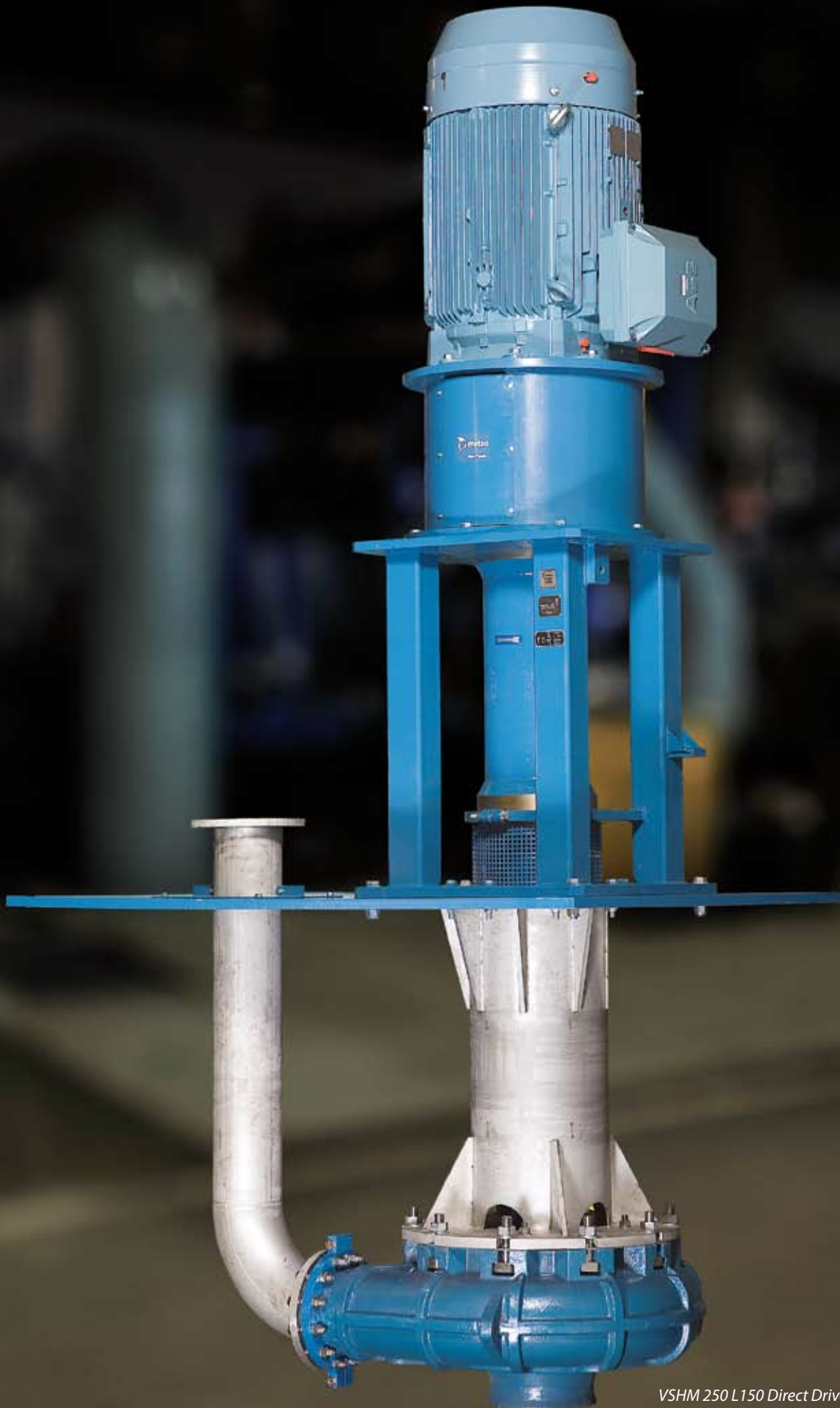


Acid proof version with all wetted parts fully covered with natural rubber or chloroprene.



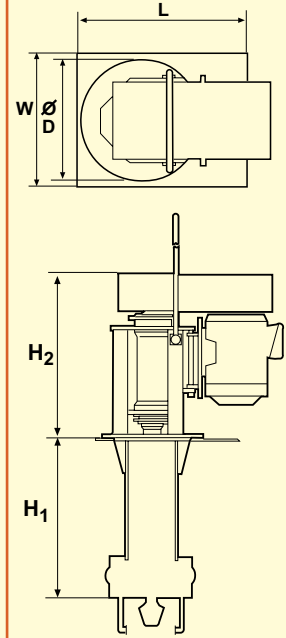
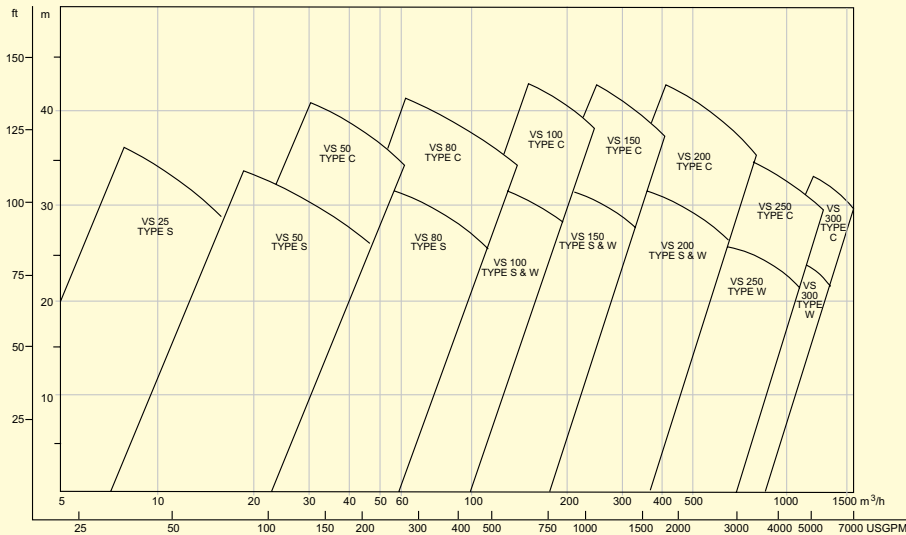
Fully recessed induced vortex impeller

Features and benefits



VSHM 250 L150 Direct Drive, 90 kW, 8-pole motor

Selection of Pump Size and Pump Dimensions VS Vertical Slurry Pump Range



Pump Size	Outlet* inch	H ₁		H ₂		ØD**		L**		W**		Weight ***	
		cm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lb
VS25	1	80	32	585	23	400	15 ³ / ₄	-	-	-	-	130	287
VS25	1	120	48	865	34	530	20 ³ / ₄	-	-	-	-	350	772
VS25	1	150	60	865	34	530	20 ³ / ₄	-	-	-	-	375	827
VS25	1	180	72	865	34	530	20 ³ / ₄	-	-	-	-	395	871
VS50 ●	2	80	32	585	23	400	15 ³ / ₄	-	-	-	-	220	485
VS50 ●	2	120	48	865	34	530	20 ³ / ₄	-	-	-	-	480	1058
VS50 ●	2	150	60	865	34	530	20 ³ / ₄	-	-	-	-	510	1124
VS50 ●	2	180	72	975	38	565	22 ¹ / ₄	-	-	-	-	610	1344
VS80	3	80	32	870	34	530	20 ³ / ₄	-	-	-	-	435	959
VS80 ●	3	120	48	975	38	565	22 ¹ / ₄	-	-	-	-	545	1202
VS80 ●	3	150	60	975	38	565	22 ¹ / ₄	-	-	-	-	580	1279
VS80 ●	3	180	72	975	38	565	22 ¹ / ₄	-	-	-	-	615	1344
VS100	4	80	32	850	33	530	20 ³ / ₄	-	-	-	-	465	1025
VS100 ●	4	120	48	960	37	565	22 ¹ / ₄	-	-	-	-	575	1268
VS100 ●	4	150	60	960	37	565	22 ¹ / ₄	-	-	-	-	610	1345
VS100 ●	4	180	72	960	37	565	22 ¹ / ₄	-	-	-	-	645	1422
VS150 ●	6	120	48	965	38	565	22 ¹ / ₄	-	-	-	-	680	1499
VS150 ●	6	150	60	1 285	50	-	-	800	31 ¹ / ₂	800	31 ¹ / ₂	1415	3120
VS150 ●	6	180	72	1 285	50	-	-	800	31 ¹ / ₂	800	31 ¹ / ₂	1470	3241
VS200 ●	8	120	48	1 285	50	-	-	800	31 ¹ / ₂	800	31 ¹ / ₂	1675	3693
VS200 ●	8	150	60	1 285	50	-	-	800	31 ¹ / ₂	800	31 ¹ / ₂	1725	3803
VS200 ●	8	180	72	1 285	50	-	-	800	31 ¹ / ₂	800	31 ¹ / ₂	1775	3913
VS250	10	150	60	1 420	56	-	-	800	31 ¹ / ₂	800	31 ¹ / ₂	2200	4850
VS250	10	180	72	1 420	56	-	-	800	31 ¹ / ₂	800	31 ¹ / ₂	2280	5027

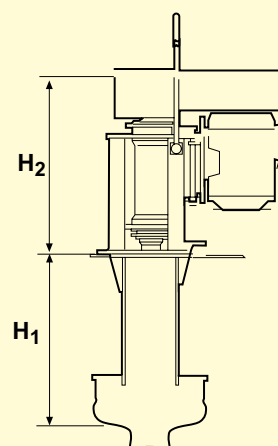
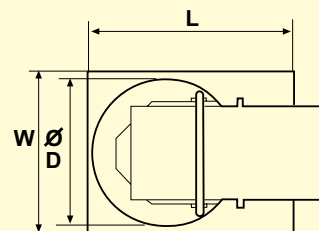
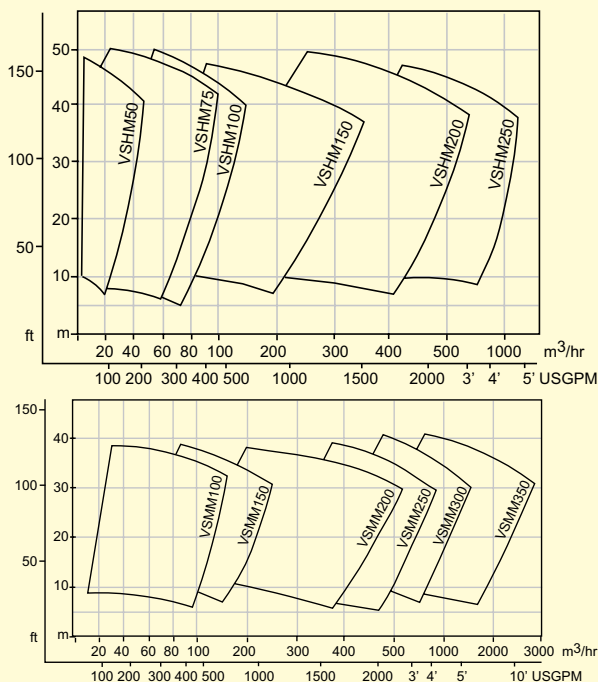
*VS25 1 : VS = Vertical Sump; 25 = outlet mm; 1 = outlet inch

** ØD or LxW is base plate dimension. Optional base plate or mounting plate incl. discharge pipe also available.

*** Weight figures are for metal parts. For rubber parts reduce weight by approx. 10%.

● These pumps are available in acid proof version with all wetted parts fully covered with natural rubber or chloroprene.

Selection of Pump Size and Pump Dimensions VSH, VSM Vertical Slurry Pump Range



Pump Size	Outlet		H ₂		øD*		L*		W**		Weight **	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lb
VSHM50 ●	32	1,25	87	34	530	20 ¾					390/405/420	860/893/926
VSHR50	32	1,25	87	34	530	20 ¾					380/395/410	838/871/904
VSHM75 ●	50	2	87	34	530	20 ¾					(L120) 415	915
VSHR75 ●	50	2	98	38	565	22 ¼					(L150 / 180) 530/565	1168/1245
VSHR75	50	2	87	34	530	20 ¾					399/424/449	880/935/990
VSHM100 ●	75	3	98	38	565	22 ¼					535/565/605	1180/1246/1334
VSHR100	75	3	98	38	565	22 ¼					555/585/625	1224/1290/1378
VSHM150 ●	100	4	128	50			800	31 ½	800	31 ½	1314/1366/1418	2897/3012/3127
VSHR150	100	4	128	50			800	31 ½	800	31 ½	1405/1460/1515	3098/3219/3340
VSHM200	150	8	128	50			800	31 ½	800	31 ½	1650/1710/1770	3638/3770/3903
VSHR200	150	8	128	50			800	31 ½	800	31 ½	1680/1740/1796	3704/3836/3960
VSHM250	200	10	142	56			800	31 ½	800	31 ½	2310/2400/2480	5093/5291/5468
VSHR250	200	10	142	56			800	31 ½	800	31 ½	2365/2455/2535	5214/5413/5589
VSMM100 ●	75	4	87	34			530	20 ¾			430/465/500	948/1025/1103
VSMR100	74	4	87	34	530	20 ¾					410/445/480	904/981/1059
VSMM150 ●	100	6	98	38	565	22 ¼					560/590/630	1235/1301/1389
VSMR150	100	6	98	38	565	22 ¼					555/585/625	1224/1290/1378
VSMM200 ●	150	8	128	50	800	31 ½	800	31 ½			1390/1445/1500	3065/3186/3307
VSMR200	150	8	128	50	800	31 ½	800	31 ½			1350/1405/1460	2977/3098/3219
VSMM250	200	10	128	50	800	31 ½	800	31 ½			1720/1780/1840	3792/3925/4057
VSMR250	200	10	128	50	800	31 ½	800	31 ½			1570/1630/1685	3462/3594/3715
VSMM300	200	12	142	56	800	31 ½	800	31 ½			2490/2570/2650	5490/5666/5843
VSMR300	200	12	142	56	800	31 ½	800	31 ½			2235/2315/2395	4928/5104/5280
VSMM350	300	14	142	56	800	31 ½	800	31 ½			- /2745/2825	- /6052/6228

Frame length (H₁) is available in 120, 150, 180 cm (48, 60, 72 inch) except VSMM350 which is available in 150, 180 cm (60, 72 inch).

* ØD or LxW is the pump base plate dimension. Optional base plate or mounting plate incl. discharge pipe also available.

** Weight figures are for metal parts., and for different frame lengths (L120 / L150 / L180).

● These pumps are available with the fully recessed induced vortex 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

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