

Vulcan HDS

Heavy Duty
Submersible Slurry Pumps
for Industrial Applications



 A BROWNLEE-MORROW COMPANY

Forged for Life!

Vulcan HDS Heavy-Duty Submersible Slurry Pumps

The Vulcan HDS delivers continuous, heavy-duty performance with a full range of design options. Built to handle your toughest applications!

MINING / STEEL

- Kaolin Clay
- Red Mud Decanting
- Magnetite Recovery
- Clarifier Sludge
- Waste Water and Basement Sumps
- Coal Pile Runoff
- Slag Pits
- Scale Pits
- Swarf Boxes
- Flume Flushers
- Interceptor Pumps

POWER GENERATION

- Coal Pile Runoff
- Coal Crusher Sumps
- Coal Tunnel Sumps
- Coal Fines Recovery
- FGD Blowdown Sumps
- Bottom Ash Transport
- Fly Ash Sumps and Ponds
- Waste Water and Basement Sumps

SAND & GRAVEL

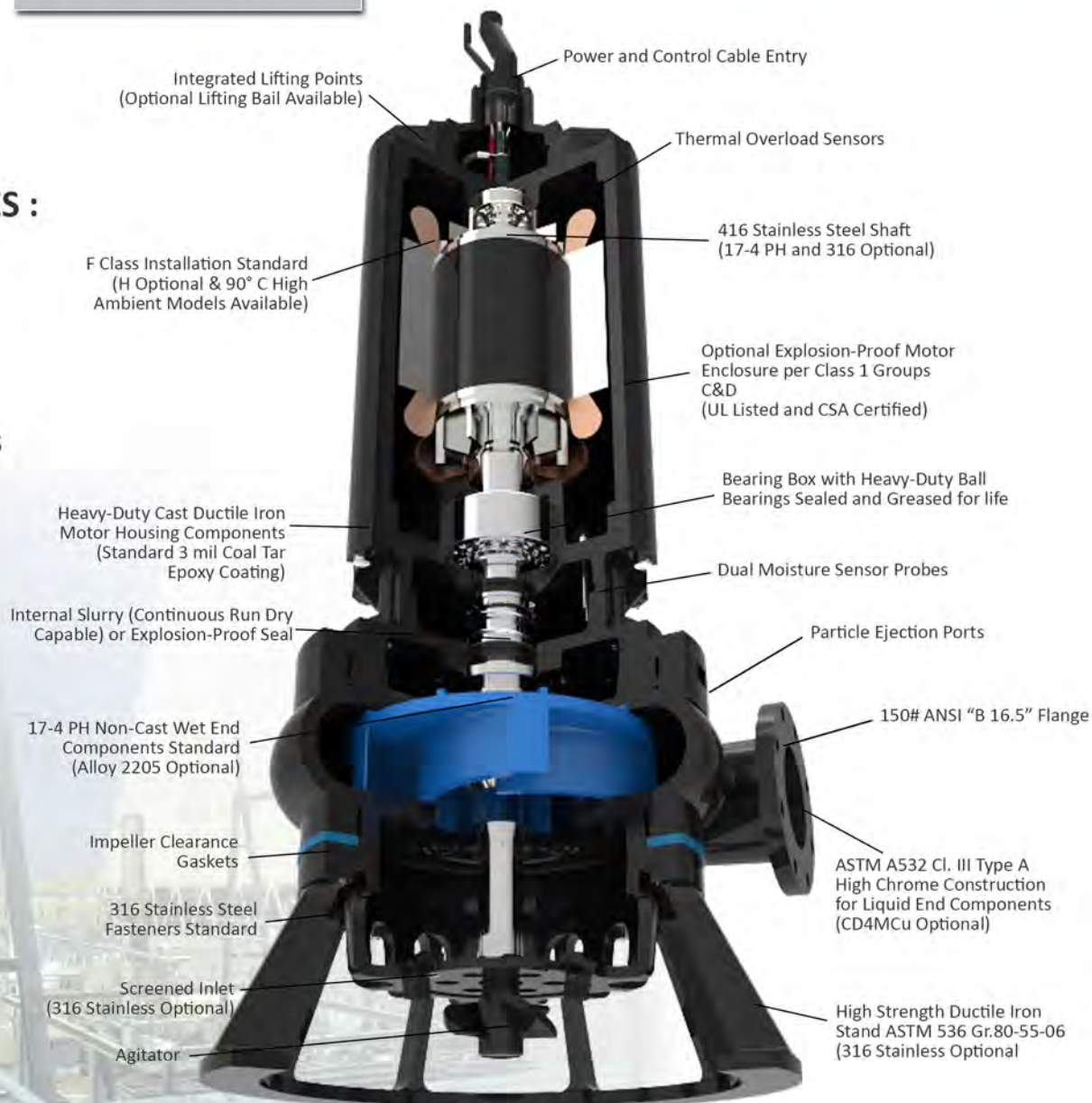
- Weir Overflow
- Dust Suppression
- Recycle Water
- Wheel Wash Pump
- Cyclone Feed
- Dredging
- Barge Unloading

Oil & Gas

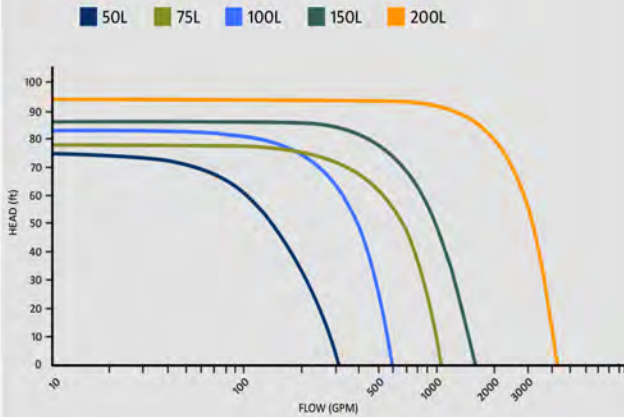
- Drilling Mud Reclamation
- Tripping Tank
- Fracking
- Tar Sands
- Washdown Sumps
- Transport Unloading Sumps

STANDARD FEATURES :

- 316 Stainless Steel Hardware
- High Chrome Iron Construction
- Particle Ejection Ports
- Agitator
- Internal Slurry Seal
- High Strength Cast Stand



Vulcan HDS Low-Head Hydraulic Performance



HDS 50L	Discharge Size [in. (mm)]	2" (50)
	Impeller Diameter [in. (mm)]	8.46" (215)
	Min. Impeller Diameter [in. (mm)]	6.77" (172)
	Max Solid Size in. (mm)	0.63" (16)
	Motor Frame Size	180TY / 210TYS
	Motor Power HP ¹	5 / 7.5 / 10 / 15 / 20
	Freq [(Hz) / RPM] ¹	60 / 1750
	Voltage	230 / 460 / 575
	Insulation ²	F / H / High Ambient
Weight ³ [lbs. (kg)]	349 (159)	

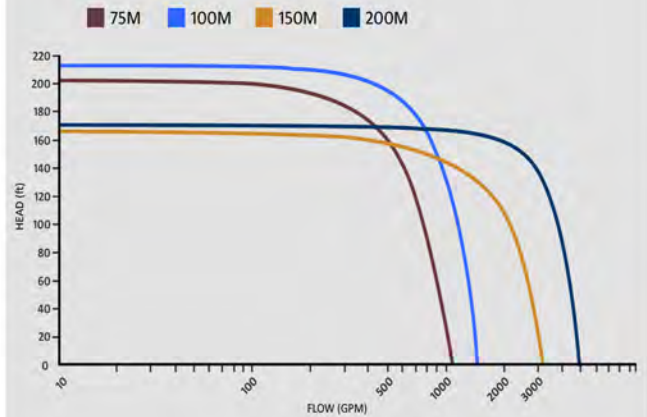
HDS 75L	Discharge Size [in. (mm)]	3" (75)
	Impeller Diameter [in. (mm)]	8.46" (215)
	Min. Impeller Diameter [in. (mm)]	6.77" (172)
	Max Solid Size in. (mm)	0.86" (22)
	Motor Frame Size	180TY / 210TYS
	Motor Power HP ¹	5 / 7.5 / 10 / 15 / 20
	Freq [(Hz) / RPM] ¹	60 / 1750
	Voltage	230 / 460 / 575
	Insulation ²	F / H / High Ambient
Weight ³ [lbs. (kg)]	371 (168)	

HDS 100L	Discharge Size [in. (mm)]	4" (100)
	Impeller Diameter [in. (mm)]	9.05" (230)
	Min. Impeller Diameter [in. (mm)]	7.24" (184)
	Max Solid Size in. (mm)	1.26" (32)
	Motor Frame Size	180TY / 210TYS
	Motor Power HP ¹	5 / 7.5 / 10 / 15 / 20
	Freq [(Hz) / RPM] ¹	60 / 1750
	Voltage	230 / 460 / 575
	Insulation ²	F / H / High Ambient
Weight ³ [lbs. (kg)]	403 (182)	

HDS 150L	Discharge Size [in. (mm)]	6" (150)
	Impeller Diameter [in. (mm)]	9.84" (250)
	Min. Impeller Diameter [in. (mm)]	7.82" (200)
	Max Solid Size in. (mm)	1.26" (32)
	Motor Frame Size	250TY / 320TYS
	Motor Power HP ¹	25 / 30 / 40 / 50 / 60 / 75
	Freq [(Hz) / RPM] ¹	60 / 1750
	Voltage	460 / 575
	Insulation ²	F / H / High Ambient
Weight ³ [lbs. (kg)]	1058 (482)	

HDS 200L	Discharge Size [in. (mm)]	8" (200)
	Impeller Diameter [in. (mm)]	14.76" (375)
	Min. Impeller Diameter [in. (mm)]	11.81" (300)
	Max Solid Size in. (mm)	1.58" (32)
	Motor Frame Size	320TY / 360TYS
	Motor Power HP ¹	40 / 50 / 60 / 75 / 100 / 125 / 150 / 200
	Freq [(Hz) / RPM] ¹	60 / 1170
	Voltage	460 / 575
	Insulation ²	F / H / High Ambient
Weight ³ [lbs. (kg)]	2015 (916)	

Vulcan HDS Medium-Head Hydraulic Performance



HDS 75M	Discharge Size [in. (mm)]	3" (75)
	Impeller Diameter [in. (mm)]	13.38" (340)
	Min. Impeller Diameter [in. (mm)]	10.70" (272)
	Max Solid Size in. (mm)	1.38" (35)
	Motor Frame Size	250TY / 320TYS
	Motor Power HP ¹	25 / 30 / 40 / 50 / 60 / 75
	Freq [(Hz) / RPM] ¹	60 / 1750
	Voltage	230 / 460 / 575
	Insulation ²	F / H / High Ambient
Weight ³ [lbs. (kg)]	747 (340)	

HDS 100M	Discharge Size [in. (mm)]	4" (100)
	Impeller Diameter [in. (mm)]	13.38" (340)
	Min. Impeller Diameter [in. (mm)]	10.70" (272)
	Max Solid Size in. (mm)	1.58" (40)
	Motor Frame Size	250TY / 320TYS
	Motor Power HP ¹	25 / 30 / 40 / 50 / 60 / 75
	Freq [(Hz) / RPM] ¹	60 / 1750
	Voltage	230 / 460 / 575
	Insulation ²	F / H / High Ambient
Weight ³ [lbs. (kg)]	790 (359)	

HDS 150M	Discharge Size [in. (mm)]	6" (150)
	Impeller Diameter [in. (mm)]	16.93" (430)
	Min. Impeller Diameter [in. (mm)]	13.60" (345)
	Max Solid Size in. (mm)	2.16" (55)
	Motor Frame Size	320TY / 360 TYS
	Motor Power HP ¹	40 / 50 / 60 / 75 / 100 / 125 / 150 / 200
	Freq [(Hz) / RPM] ¹	60 / 1170
	Voltage	460 / 575
	Insulation ²	F / H / High Ambient
Weight ³ [lbs. (kg)]	2216 (1007)	

HDS 200M	Discharge Size [in. (mm)]	8" (200)
	Impeller Diameter [in. (mm)]	18.50" (470)
	Min. Impeller Diameter [in. (mm)]	14.80" (376)
	Max Solid Size in. (mm)	2.36" (60)
	Motor Frame Size	320TY / 360TYS
	Motor Power HP ¹	40 / 50 / 60 / 75 / 100 / 125 / 150 / 200
	Freq [(Hz) / RPM] ¹	60 / 1170
	Voltage	460 / 575
	Insulation ²	F / H / High Ambient
Weight ³ [lbs. (kg)]	2333 (1056)	

1. 50Hz Motors Available
2. Class F- 120°F
Class H- 160°F
High Ambient-190°F
3. Weight Subject to Motor Size

STANDARD HDS FEATURES

Internal Slurry Seal



- Mechanical seal configuration designed for prolonged motor operation in severe duty slurry applications
- Double mechanical seals operate in an oil chamber - Components are isolated from the pumped slurry
- Carbon -Ni Resist face (upper) and Tungsten Carbide face (lower) with stainless hardware



HDS Agitator

- Provides agitation to suspend solids for cleaner sumps

Particle Ejection Ports



- Expels solids to extend seal life
- Maintains minimum flow during closed valve operation

OPTIONAL HDS FEATURES

Moisture Detector



- Prolongs pump performance
- NEMA 4 enclosure
- Motor safeguard
- Signals early seal failure to avoid costly repairs

Control Panel

- Simplex/Duplex
- Built-In thermal overload and moisture detector



Super Slurry Seal



- The seal solution for the most demanding applications
- The Super Slurry Seal feature duplex stainless construction, silicon carbide faces, and encapsulated spring design to operate in the most severe environments
- Suitable for both standard and explosion proof motors

Stainless Steel Spray Ring

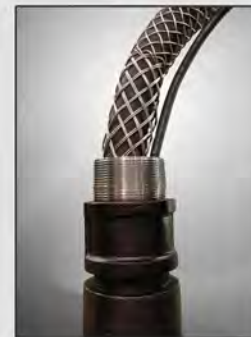
- Extra agitation when required for heavy solids



Explosion-Proof Slurry Seal



- Carbon-Ni Resist faces and 316 Stainless Steel hardware for internal seal
- Tungsten Carbide faces and 316 Stainless Steel hardware for external seal



Vulcan Cable Guard

- Protects cable connection
- Prevents excessive force on cable to prevent binding and avoid damage

Barges & Floating Pump Packages

Custom pontoon-mounted floating pump packages are available to meet almost any performance requirements. Call or click today to learn more about how a Vulcan float package can benefit your operation.



A BROWNLEE-MORROW COMPANY

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Birmingham, AL 35242

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www.vulcanpumps.com

POWER GENERATION

The Vulcan HDS is a hard metal severe duty submersible slurry pump designed for the harshest power generation applications. Built out of the toughest materials with a wide range of pump sizes, options, and accessories, the HDS is prepared to tackle your most demanding pumping problems.

APPLICATIONS:

- Coal Pile Run Off
- Fly Ash Sumps
- Coal Tunnel
- Ash Ponds
- Waste Water Clean-Up Sumps
- FGD Blowdown Sumps

Features/Benefits:

- 28% Chrome Iron (CD4MCU Optional)
Liquid End Construction
- Heavy Duty Motor with Thermal Overload and Moisture Sensor
- Internal Slurry Mechanical Seal with TC Faces
- 316 SS Hardware
- 17-4 PH Pump Components
- Deflector and Particle Ejection Ports
- High Tensile Strength Cast Stand
- UL and CSA Approved Motors
- Coal Tar Epoxy Coating
- Various Options and Accessories to Fit Your Needs



STEEL PRODUCING

The Vulcan HDS is a hard metal severe duty submersible slurry pump designed for the harshest steel production applications. Built out of the toughest materials with a wide range of pump sizes, options, and accessories, the HDS is prepared to tackle your most demanding pumping problems.

APPLICATIONS:

- Coal Pile Run Off
- Scale Pit
- Flume Flush
- Slag Pit
- Swarf Box
- Interceptor Pump

Features/Benefits:

- 28% Chrome Iron (CD4MCU Optional)
Liquid End Construction
- Heavy Duty Motor with Thermal Overload and Moisture Sensor
- Internal Slurry Mechanical Seal with TC Faces
- 316 SS Hardware
- 17-4 PH Pump Components
- Deflector and Particle Ejection Ports
- High Tensile Strength Cast Stand
- UL and CSA Approved Motors
- Coal Tar Epoxy Coating
- Various Options and Accessories to Fit Your Needs



MINING

The Vulcan HDS is a hard metal severe duty submersible slurry pump designed for the harshest mining applications. Built out of the toughest materials with a wide range of pump sizes, options, and accessories, the HDS is prepared to tackle your most demanding pumping problems.

APPLICATIONS:

- Floor Clean-Up Sumps
- Magnetite Recovery
- Dust Suppression
- Concentrate Sumps
- Conveyor Sumps
- Tunnel Sumps

Features/Benefits:

- 28% Chrome Iron (CD4MCU Optional)
Liquid End Construction
- Heavy Duty Motor with Thermal Overload
and Moisture Sensor
- Internal Slurry Mechanical Seal with TC
Faces
- 316 SS Hardware
- 17-4 PH Pump Components
- Deflector and Particle Ejection Ports
- High Tensile Strength Cast Stand
- UL and CSA Approved Motors
- Coal Tar Epoxy Coating
- Various Options and Accessories to Fit
Your Needs



SAND AND GRAVEL

The Vulcan HDS is a hard metal severe duty submersible slurry pump designed for the harshest sand and gravel industry applications. Built out of the toughest materials with a wide range of pump sizes, options, and accessories, the HDS is prepared to tackle your most demanding pumping problems.

APPLICATIONS:

- Weir Overflow
- Recycle Water
- Cyclone Feed
- Dust Suppression
- Wheel Wash Sump
- Dredging

Features/Benefits:

- 28% Chrome Iron (CD4MCU Optional)
Liquid End Construction
- Heavy Duty Motor with Thermal Overload and Moisture Sensor
- Internal Slurry Mechanical Seal with TC Faces
- 316 SS Hardware
- 17-4 PH Pump Components
- Deflector and Particle Ejection Ports
- High Tensile Strength Cast Stand
- UL and CSA Approved Motors
- Coal Tar Epoxy Coating
- Various Options and Accessories to Fit Your Needs



Oil and Gas

The Vulcan HDS-XP is a hard metal severe duty submersible slurry pump designed for the harshest oil and gas industry applications. Built out of the toughest materials with a wide range of pump sizes, options, and accessories, the HDS-XP is prepared to tackle your most demanding pumping problems.

APPLICATIONS:

- Drilling Mud Reclamation
- Tripping Tank
- Fracking
- Tar Sands
- Washdown Sumps
- Transport Unloading Sumps

Features/Benefits:

- 28% Chrome Iron (Duplex Stainless CD4MCu Optional) Liquid End Construction
- Agitator for heavy solids concentration
- Heavy Duty FM Approved Explosion Proof Motor with Thermal Overload and Moisture Sensor
- Internal Slurry Mechanical Seal with Silicon Carbide Faces
- 316 SS Hardware
- 17-4 PH Pump Components
- Deflector and Particle Ejection Ports
- High Tensile Strength Cast Stand
- Wide Range of Hydraulic Coverage
- Coal Tar Epoxy Coating
- Various Options and Accessories to Fit Your Needs



Vulcan HDSS

Vulcan's most popular pump -
now in **Stainless Steel!**

Introducing the all-new HDSS Corrosive Slurry pump,
your answer to the harshest corrosive and abrasive
slurry applications

CD4 Duplex Stainless Steel
(ASTM A890-1B Gr. CD4MCU)
Liquid End Casing, Impeller,
Agitator, and Suction Liner
(2205 Optional)

316 SS Pump Stand

Heavy Duty 316 SS Motor
Housing with 316 SS Motor Shaft

Moisture and Thermal
Overload Motor Sensors

Internal Slurry Mechanical Seal
with Silicon Carbide Faces and
Viton Elastomers

50' of Power and Control
Cable

316 SS Hardware

17-4 PH Pump Components

Deflector and Particle Ejection
Ports



1-205-995-4376

www.vulcanpumps.com

Vulcan HDS

Vulcan's most popular pump now has more options, giving it the **versatility** to **adapt** to the

TOUGHEST SITUATIONS

so you can get the dirtiest jobs in the industry

DONE RIGHT



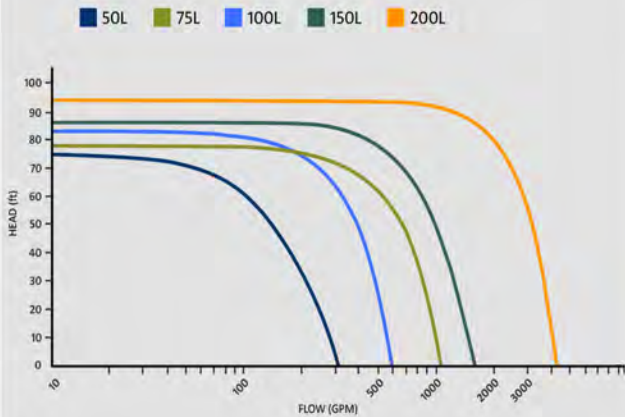
Part	HDS	HDSS	
	Material (ASTM)	Material (ASTM)	Optional (ASTM)
Casing	28% Chrome Iron (A532 CL III Type A)	CD4MCu (A890-1B)	-
Impeller	28% Chrome Iron (A532 CL III Type A)	CD4MCu (A890-1B)	-
Suction Cover	28% Chrome Iron (A532 CL III Type A)	CD4MCu (A890-1B)	-
Motor Side Cover	28% Chrome Iron (A532 CL III Type A)	CD4MCu (A890-1B)	-
Agitator	28% Chrome Iron (A532 CL III Type A)	CD4MCu (A890-1B)	-
Stand	Hi-Strength Ductile Iron (A536 Gr. 80-55-06)	316 SS (A276 Type 316)	Alloy 20 (B473)
Shaft Adapter	17-4 PH (A564 Gr. 630)	17-4 PH (A564 Gr. 630)	Alloy 20 (B473)
Shaft Extension	17-4 PH (A564 Gr. 630)	17-4 PH (A564 Gr. 630)	Alloy 20 (B473)
Motor Deflector	316 SS (A276 Type 316)	316 SS (A276 Type 316)	Alloy 20 (B473)
Fasteners	316 SS (A276 Type 316)	316 SS (A276 Type 316)	Alloy 20 (B473)
Motor Housing	Ductile Iron (A536)	316 SS (A351-CF8M)	HPL 2310/4310 Coating
Motor Flange	Ductile Iron (A536)	316 SS (A351-CF8M)	CD4MCu (A890-1B)
Motor Shaft	416 SS (A711)	316 SS (A711)	Alloy 20 (B637)
Seal Faces	Tungsten Carbide	Silicon Carbide	-
Elastomers	Buna	Viton	-



1-205-995-4376

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Vulcan HDS Low-Head Hydraulic Performance



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	Max Solid Size in. (mm)	0.63" (16)
	Motor Frame Size	180TY / 210TYS
	Motor Power HP ¹	5 / 7.5 / 10 / 15 / 20
	Freq [(Hz) / RPM] ¹	60 / 1750
	Weight ² [lbs. (kg)]	349 (159)

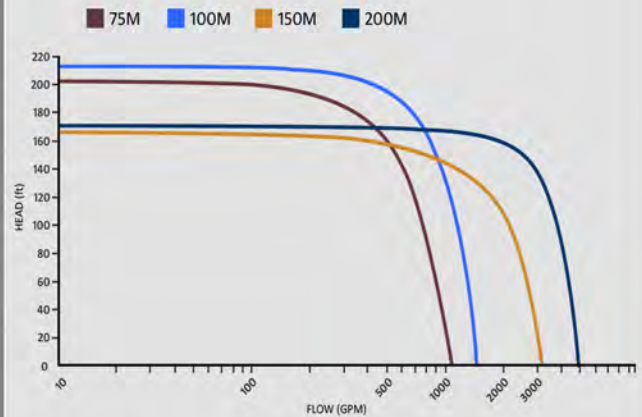
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	Min. Impeller Diameter [in. (mm)]	7.82" (200)
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	Motor Power HP ¹	25 / 30 / 40 / 50 / 60 / 75
	Freq [(Hz) / RPM] ¹	60 / 1750
	Weight ² [lbs. (kg)]	1058 (482)

HDS 200L	Discharge Size [in. (mm)]	8" (200)
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	Freq [(Hz) / RPM] ¹	60 / 1170
	Weight ² [lbs. (kg)]	2015 (916)

Vulcan HDS Medium-Head Hydraulic Performance



HDS 75M	Discharge Size [in. (mm)]	3" (75)
	Impeller Diameter [in. (mm)]	13.38" (340)
	Min. Impeller Diameter [in. (mm)]	10.70" (272)
	Max Solid Size in. (mm)	1.38" (35)
	Motor Frame Size	250TY / 320TYS
	Motor Power HP ¹	25 / 30 / 40 / 50 / 60 / 75
	Freq [(Hz) / RPM] ¹	60 / 1750
	Weight ² [lbs. (kg)]	747 (340)

HDS 100M	Discharge Size [in. (mm)]	4" (100)
	Impeller Diameter [in. (mm)]	13.38" (340)
	Min. Impeller Diameter [in. (mm)]	10.70" (272)
	Max Solid Size in. (mm)	1.56" (40)
	Motor Frame Size	250TY / 320TYS
	Motor Power HP ¹	25 / 30 / 40 / 50 / 60 / 75
	Freq [(Hz) / RPM] ¹	60 / 1750
	Weight ² [lbs. (kg)]	790 (359)

HDS 150M	Discharge Size [in. (mm)]	6" (150)
	Impeller Diameter [in. (mm)]	16.93" (430)
	Min. Impeller Diameter [in. (mm)]	13.60" (345)
	Max Solid Size in. (mm)	2.16" (55)
	Motor Frame Size	320TY / 360TYS
	Motor Power HP ¹	40 / 50 / 60 / 75 / 100 / 125 / 150 / 200
	Freq [(Hz) / RPM] ¹	60 / 1170
	Weight ² [lbs. (kg)]	2216 (1007)

HDS 200M	Discharge Size [in. (mm)]	8" (200)
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	Max Solid Size in. (mm)	2.36" (60)
	Motor Frame Size	320TY / 360TYS
	Motor Power HP ¹	40 / 50 / 60 / 75 / 100 / 125 / 150 / 200
	Freq [(Hz) / RPM] ¹	60 / 1170
	Weight ² [lbs. (kg)]	2333 (1056)

1. 50Hz Motors Available
2. Class F- 120°F
Class H- 160°F
High Ambient-190°F
3. Weight Subject to Motor Size



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