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ELECTRIC SUBMERSIBLE SEWAGE PUMP

MSP3 SERIES

3-inch / 75-mm
to
6-inch / 150-mm

2-POLE: 8kW - 32kW
4-POLE: 7.5kW - 28kW
6-POLE: 6.6kW - 13.5kW

VOLTAGE OPTIONS

400V / 3PH / 50HZ

CONFIGURATIONS

WET PIT
DRY PIT
PORTABLE

CAPACITIES to:
480 M3/HR

PRESSURES to:
75 M TDH

CONSTRUCTION FEATURES

- HIGH EFFICIENCY MOTORS WITH CLASS H INSULATION SYSTEM
- OPTIONAL SELF - CONTAINED "ECO-FRIENDLY™" COOLING SYSTEM
- "FAST - CHANGE" CARTRIDGE MECHANICAL SEALS WITH SILICON SEAL FACES
- ADJUSTABLE WEAR RING SYSTEM
- INTERCHANGEABLE VORTEX OR ENCLOSED IMPELLER DESIGN (SAME VOLUTE AND SHAFT)
- "FAST - LOCK", QUICK-RELEASE, LATCH-BOLTS
- OIL TAP DRAIN
- PARTS INTERCHANGEABILITY WITH PUMPEX BRAND
- UNIT INTERCHANGEABILITY - FLYGT BRAND INSTALLATIONS
- ADAPTERS FOR OTHER BRAND INSTALLATIONS



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Pumps

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ELECTRIC SUBMERSIBLE SEWAGE PUMP

MSP SERIES

SPECIFICATIONS

Solid Handling: up to 4"/100mm

Impeller Types: Vortex or channel

Max. Temp. of Pumped Fluid: 104°F/40°C

Max. Starts/Stop Per Hour: 15

Max. Submergence: 66'/20m



MOTOR: NEMA B design, die cast aluminum squirrel cage rotor, induction motor rated for continuous duty with 1.15 service factor. "NEMA Energy Efficient Class". Moisture resistant Class "H" (180°C temperature rating) insulated stator windings, watertight air-filled IP68 enclosure. UL listed components, rated for VFD operation in conformance with NEMA MG1-2003, Part 31. Designed by Siemens with 2, 4 and 6-pole speed options. Klixon temperature sensors embedded in stator windings for thermal overload protection. Moisture detection probes in main motor cavity and top-end power cable terminal chamber. Optional maintenance free closed loop cooling system available for dry pit or partial submerged continuous duty. Cooling system is separate from pumped liquid. No external cooling source required.

POWER SUPPLY: 400 volts +/-10%, 3-phase, 50-hz AC Supply.

BALL BEARINGS: The rotor shaft is carried by two ball bearings. The lower bearing is a double angular contact ball bearing, C3 with H7 fit, capable of carrying high thrust and radial loads. The upper bearing is a deep groove single row ball bearing, C3 with H7 fit. The bearings are filled with high temperature grease containing special anti-corrosive additive. The bearings are maintenance free for life.

POWER CABLE: 33'/10m in length, sized according to IEC, NEC or CSA standards, water/oil resistant EPR insulated, copper conductor flexible cable and additional control cable for moisture sensor and thermals, capable of continuous submerged operation underwater at temperatures to 90°C and to a depth of 66 feet. Additional cable lengths optional.

CABLE ENTRY / JUNCTION CHAMBER SEAL: The cable entry design does not require specific torque requirements to insure a watertight seal. The cable entry consists of a cylindrical elastomer grommet, flanked by stainless steel washers. A cable cap incorporating a strain relief mounts to the cable entry boss compressing the grommet ID to the cable while the grommet OD seals against the bore of the cable entry.

The junction chamber is isolated and sealed from the motor by means of sealing glands and O-rings. Electrical connections between the power cables and motor leads are made via a post type terminal board.

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SHAFT SEALS: Fast change cartridge, double mechanical shaft seal system with silicon carbide vs. silicon carbide upper and lower stationary and rotating faces in reservoir filled with USDA food grade oil. Oil tap drain feature for easy maintenance.

SEAL FAILURE EARLY WARNING SYSTEM: A moisture detection probe is provided in the seal oil chamber for detecting the presence of moisture. A relay device (by others) mounted in the pump control panel or in a separate enclosure sends a low voltage, low amperage signal to the probe. If moisture is present (determined by decreased resistance signals), the relay device energizes a warning light or shut-down circuit in the control panel, protecting the motor from damage.

FAST LOCK LATCH BOLTS: The pump includes fast lock / quick release mechanisms with 304 stainless steel latch bolts to allow easy removal of the motor unit from the pump volute without disturbing system piping and the need for special tools. With this feature, a volute hand-hole cover for cleanout access is not required.

IMPELLER: Enclosed or vortex, specifically designed for non-clog operation, dynamically balanced and trimmed to meet specified hydraulic operating conditions. The impeller slip fits onto the motor shaft with a drive key and is fastened to the shaft by a stainless steel lock screw which is mechanically prevented from loosening by a ratcheting washer assembly that is positively engaged. Channel and vortex impellers are interchangeable with one another in the field without modification to the pump.

ADJUSTABLE WEAR RING SYSTEM: A replaceable wear ring is securely fitted the pump casing by no less than 3 stainless steel set screws. The wear ring is capable of axial adjustment to reduce hydraulic losses between itself and the enclosed type impeller when wear affects pump efficiency. This adjustment does not require special tools.

MATERIALS OF CONSTRUCTION

Description	Material
Stator Casing	Cast iron ASTM A-48, Class 35
Pump Volute/Casing	Cast iron ASTM A-48, Class 35
Casing Wear Ring	Cast iron ASTM A-48, Class 35
Lifting Handle	AISI 316 stainless steel
Impeller	Ductile iron ASTM A-395, Grade 60-40-18
Shaft	AISI 431 stainless steel
Shaft Sleeve	AISI 431 stainless steel
Hardware	AISI 304 stainless steel
Mechanical Seal	Fast change cartridge double with silicon carbide vs. silicon carbide faces
O-Rings	Nitrile rubber

SURFACE TREATMENT: Primer with Epoxy and subsequently coated with black air dry enamel.

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WARRANTY

We warrant to our immediate customer and to the ultimate consumer that products of our manufacture will be free of defects in material and workmanship under normal use and service for the following time periods, when installed and maintained in accordance with our instructions.

PUMPS: One (1) year from date of installation or (18) months from date of shipment, whichever occurs first. As used herein, "the ultimate consumer" is defined as the purchaser who first uses the product after its initial installation or, in the case for product designed for non-permanent installation, the first owner who uses the product. It is the purchaser's or any sub-vendor's obligation to make known to the ultimate consumer the terms and conditions of this warranty. This warranty gives you specific legal rights, and there may also be other rights which vary from state to state. In the event the product is covered by the Federal Consumer Product Warranties Law (1) the duration of any implied warranties associated with the product by virtue of said law is limited to the same duration as stated herein, (2) this warranty is a LIMITED WARRANTY, and (3) no claims of any nature whatsoever shall be made against us, until the ultimate consumer, his successor, or assigns, notifies us in writing of the defect, and delivers the product and/or defective part(s) freight prepaid to our facility or nearest authorized service station. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply. **THE SOLE AND EXCLUSIVE REMEDY FOR BREACH OF ANY AND ALL WARRANTIES WITH RESPECT TO ANY PRODUCT SHALL BE TO REPLACE OR REPAIR AT OUR ELECTION, FOB POINT OF MANUFACTURE OR AUTHORIZED REPAIR STATION, SUCH PRODUCTS AND/OR PARTS AS PROVEN DEFECTIVE. THERE SHALL BE NO FURTHER LIABILITY, WHETHER BASED ON WARRANTY, NEGLIGENCE OR OTHERWISE.**

Unless expressly stated otherwise, guarantees in the nature of performance specifications furnished in addition to the foregoing material and workmanship warranties on a product manufactured by *Mody*, if any, are subject to laboratory tests corrected for field performance. Any additional guarantees, in the nature of performance specifications must be in writing and such writing must be signed by our authorized representative. Due to inaccuracies in field testing if a conflict arises between the results of field testing conducted by or for user, and laboratory tests corrected for field performance, the latter shall control. Components or accessories supplied by us but manufactured by others are warranted only to the extent of and by the terms and conditions of the original manufacturer's warranty.

RECOMMENDATIONS FOR SPECIAL APPLICATIONS OR THOSE RESULTING FROM SYSTEMS ANALYSES AND EVALUATIONS WE CONDUCT, WILL BE BASED ON OUR BEST AVAILABLE EXPERIENCE AND PUBLISHED INDUSTRY INFORMATION. SUCH RECOMMENDATIONS DO NOT CONSTITUTE A WARRANTY OF SATISFACTORY PERFORMANCE AND NO SUCH WARRANTY IS GIVEN.

This warranty shall not apply when damage is caused by (a) improper installation, (b) improper voltage, (c) lightning, (d) sand or other abrasive materials, (e) scale or corrosion build-up due to excessive chemical content. Any modification of the equipment will also void the warranty. We will not be responsible for loss, damage or labor cost due to interruption of service caused by defective parts. Neither will we accept charges incurred by others without our prior written approval. This warranty is void if our inspection reveals the product was used in a manner inconsistent with normal industry practice and/or our specific recommendations. The purchaser is responsible for communication of all necessary information regarding the application and use of the product. **UNDER NO CIRCUMSTANCES WILL WE BE RESPONSIBLE FOR ANY OTHER DIRECT OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS, LOST INCOME, LABOR CHARGES, DELAYS IN PRODUCTION, IDLE PRODUCTION, WHICH DAMAGES ARE CAUSED BY ANY DEFECTS IN MATERIAL, AND/OR WORKMANSHIP AND/OR DELAYS IN SHIPMENT. THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** No rights extended under this warranty shall be assigned to any person, whether by operation or otherwise, without our prior written approval.

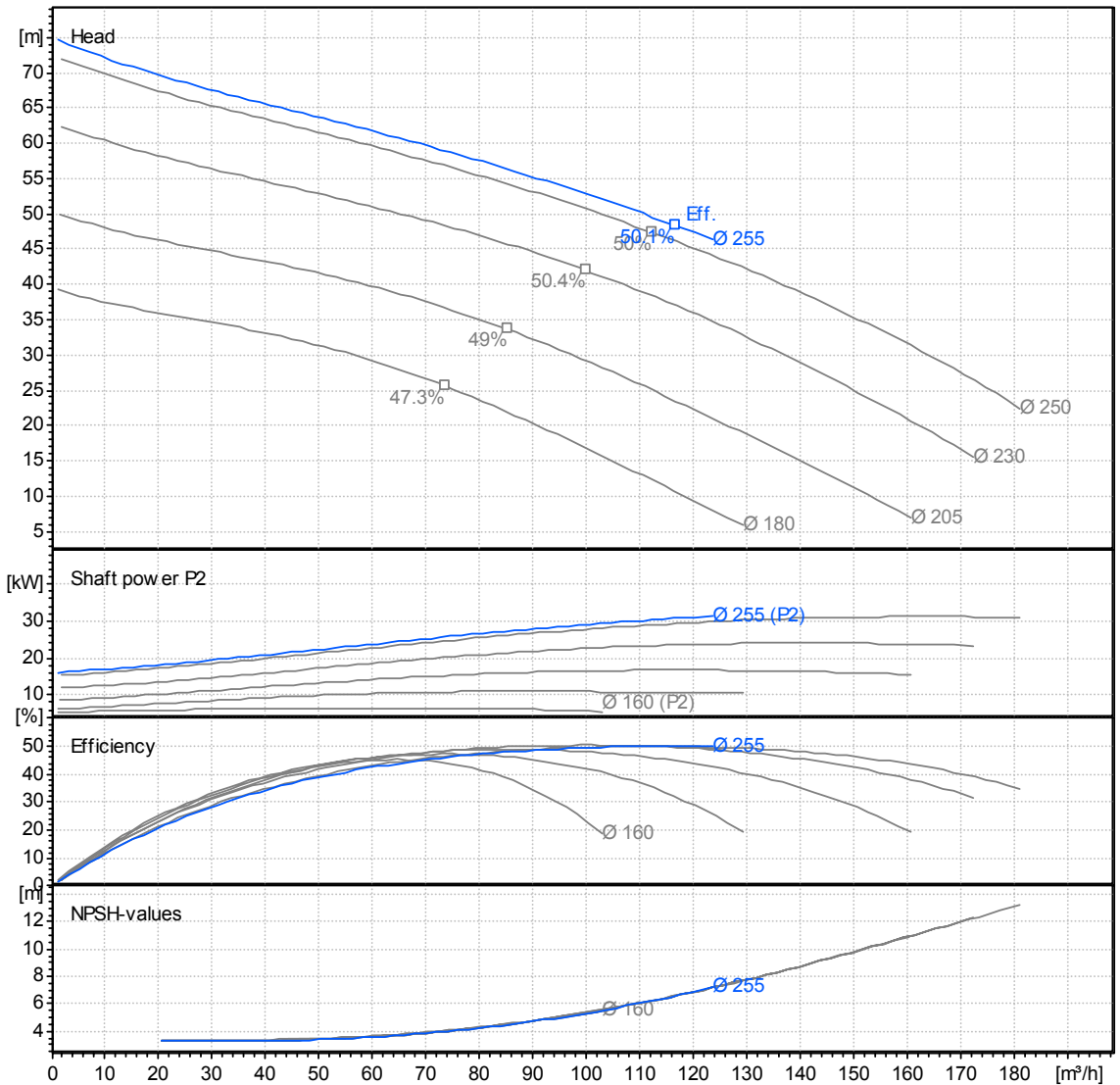
Mody Pumps Inc.

2166 Zeus Court, Bakersfield, CA 93308 USA

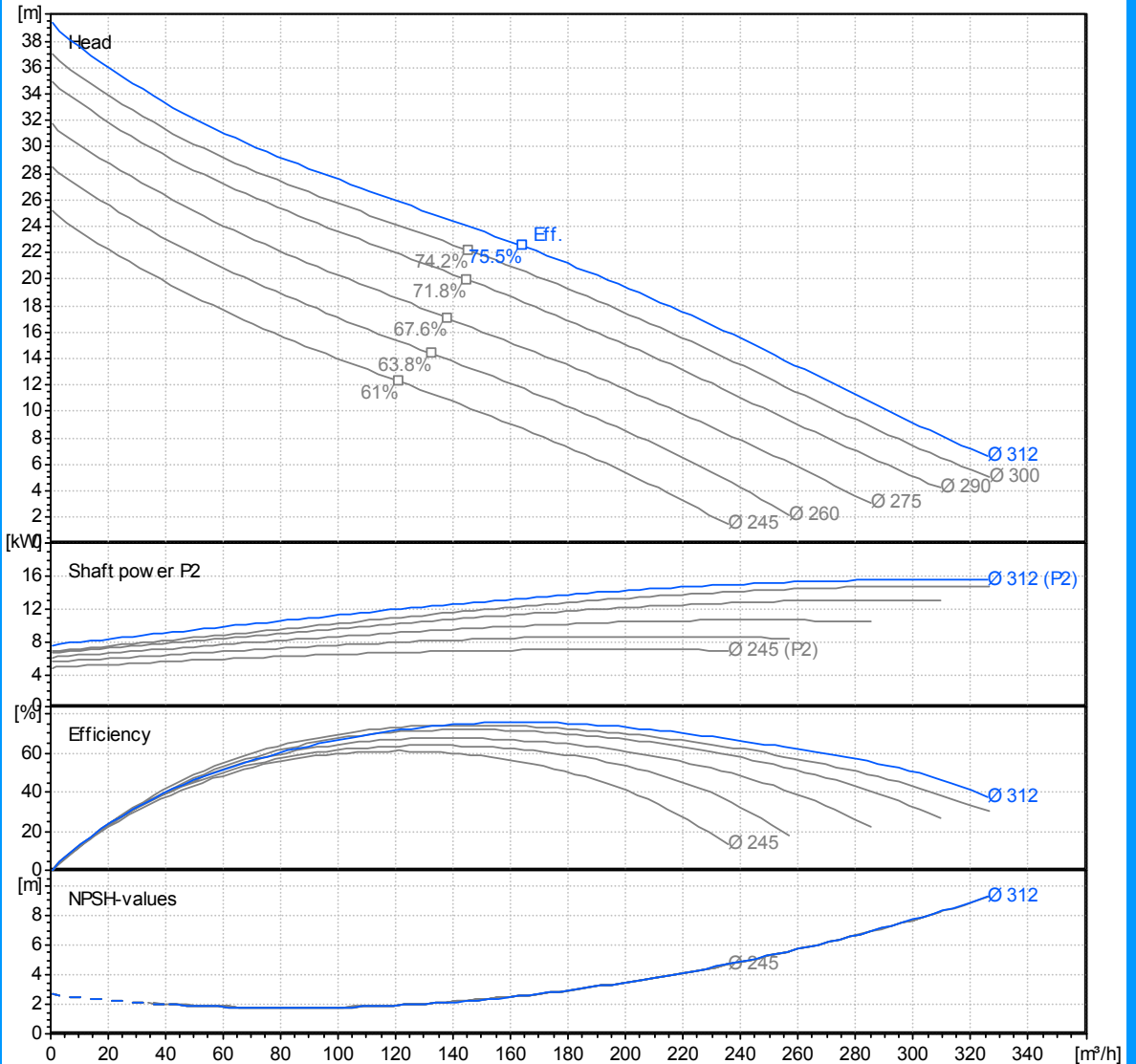
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MSP3-80.0-2 VORTEX 1 2900 RPM

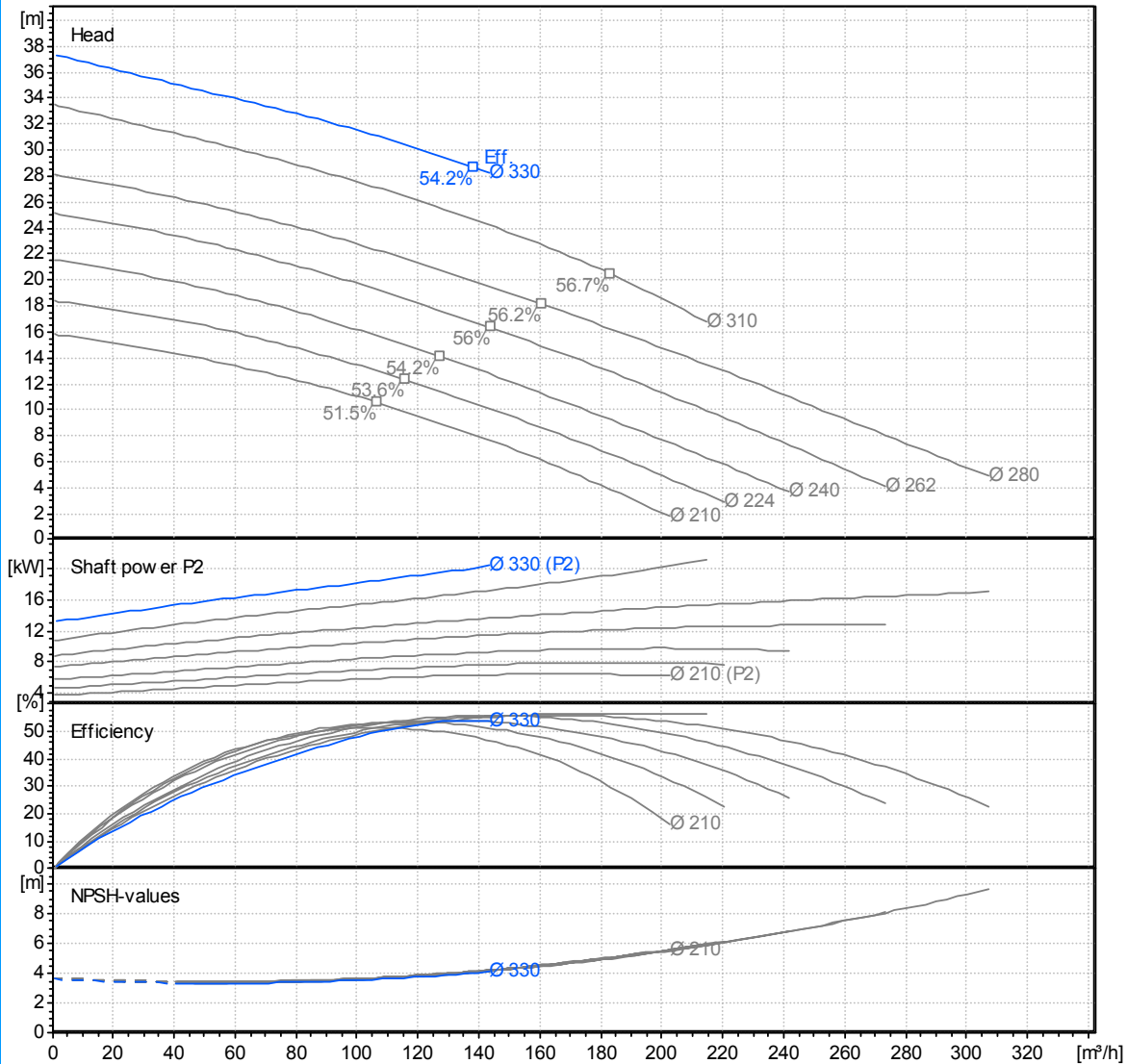


MSP3-100.0-4 Channel 1 1450 RPM



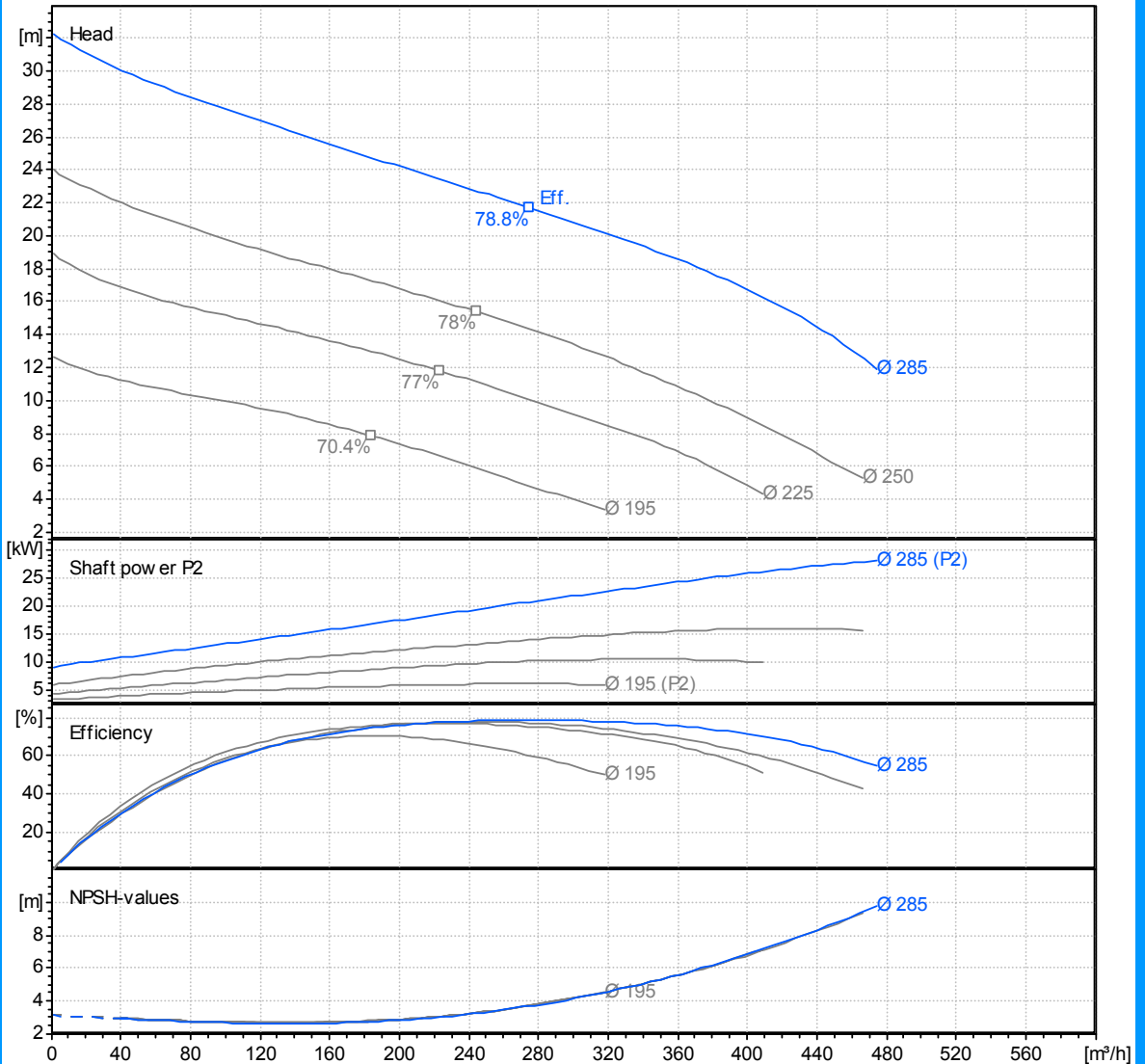
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MSP3-100.0-4 Vortex 1 1450 RPM

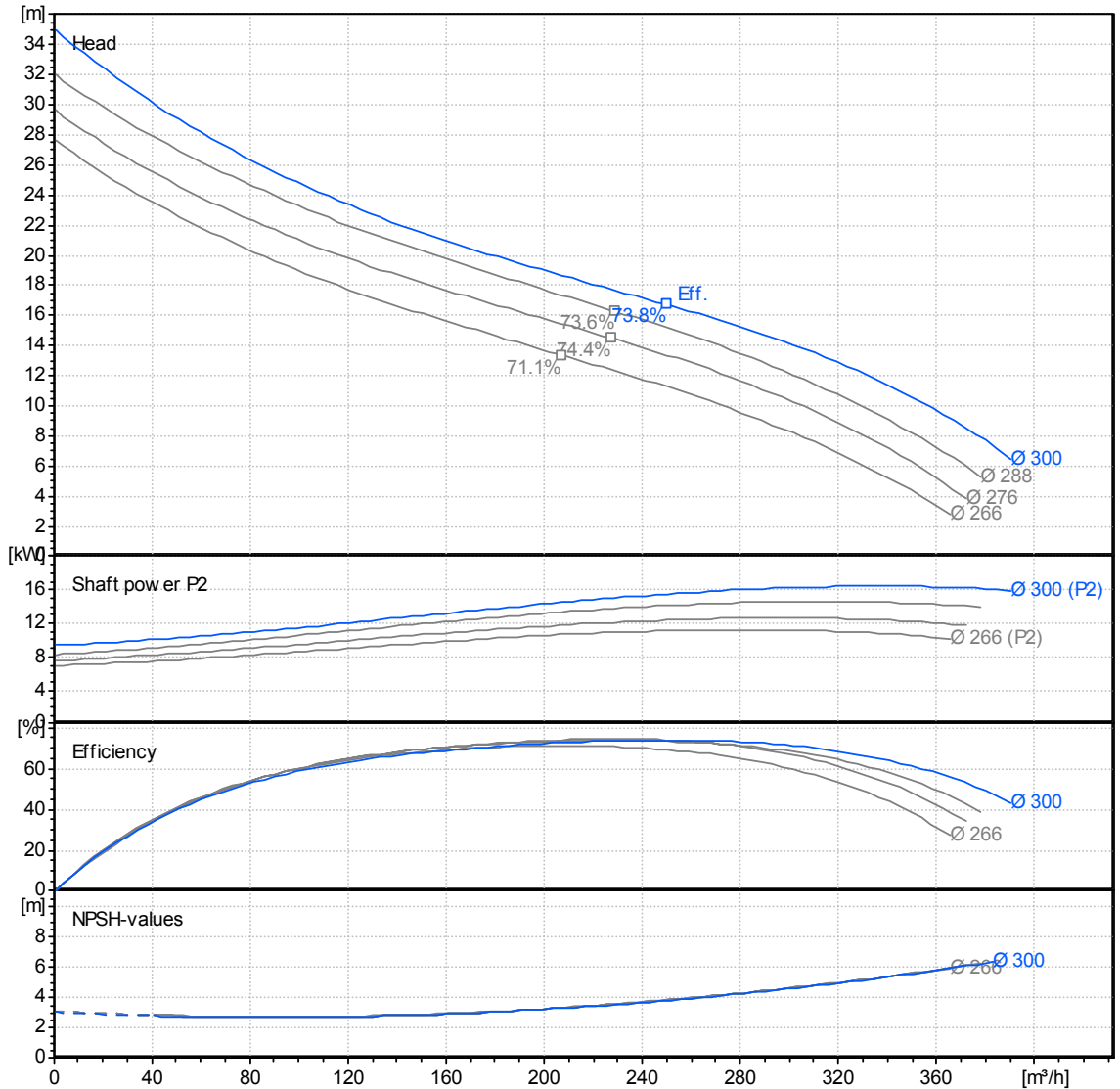


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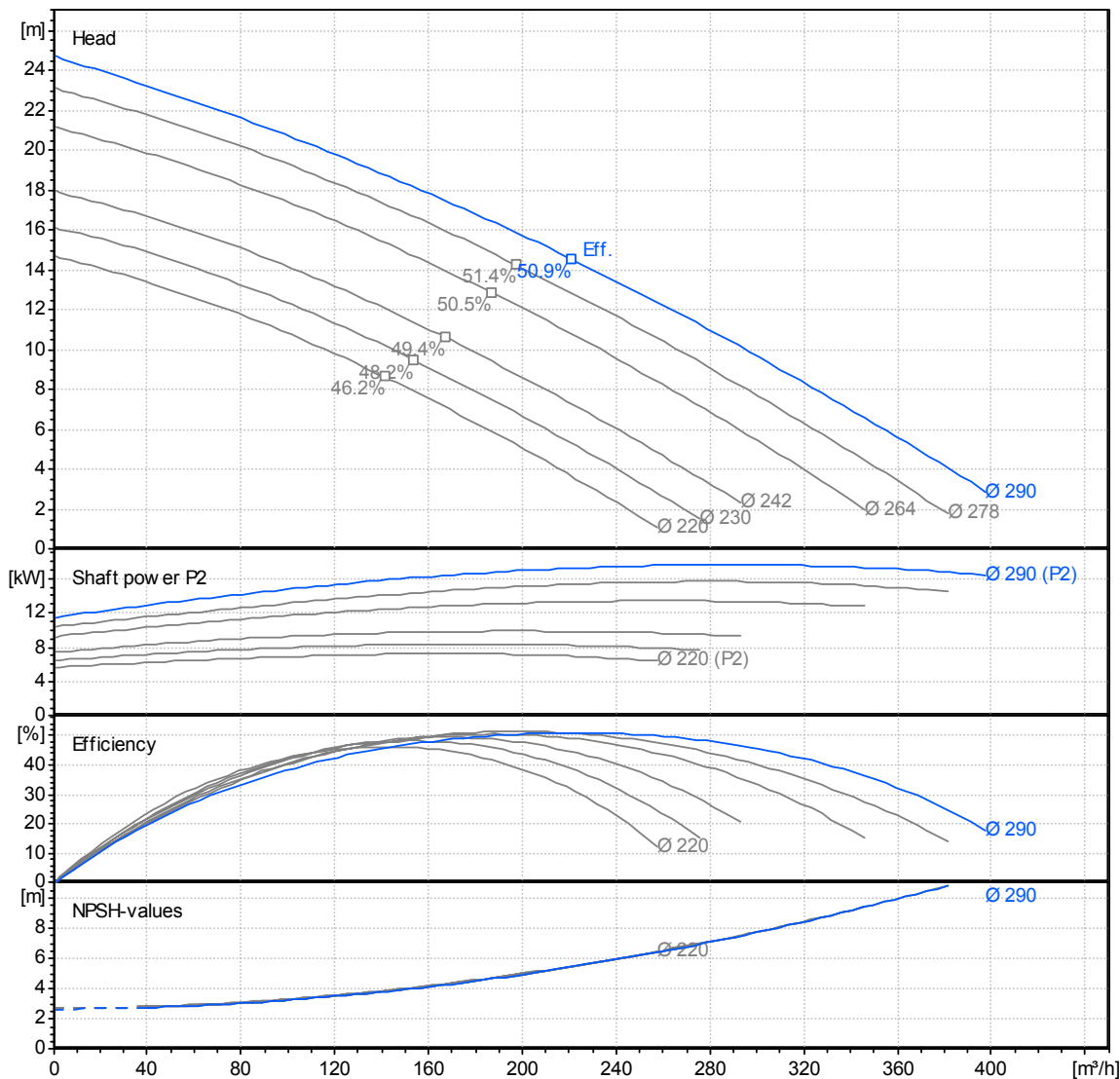
MSP3-150.0-4 Channel 1 1450 RPM



MSP3-150.0-4 Channel 2 1450 RPM

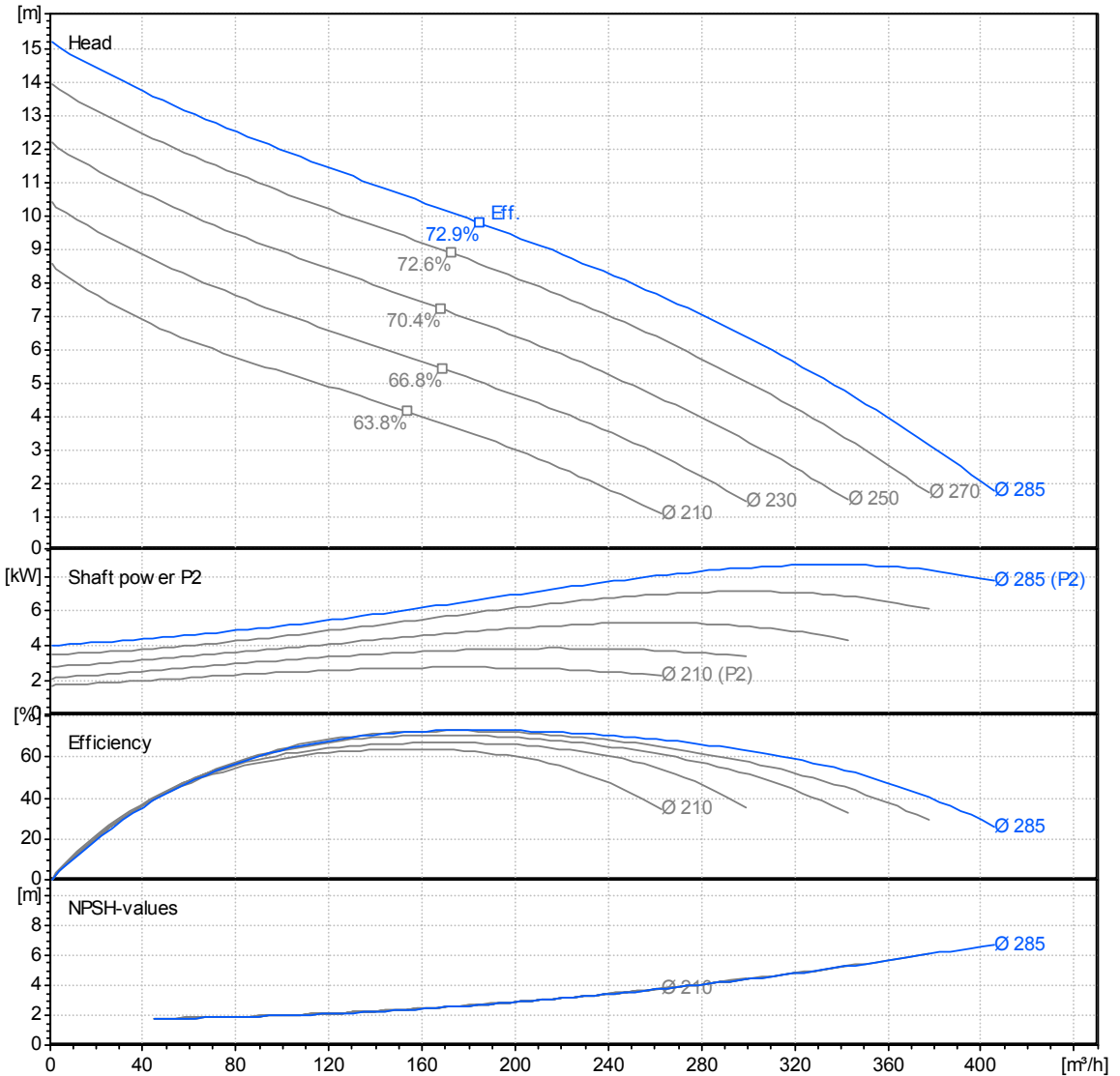


MSP3-150.0-4 Vortex 1 1450 RPM



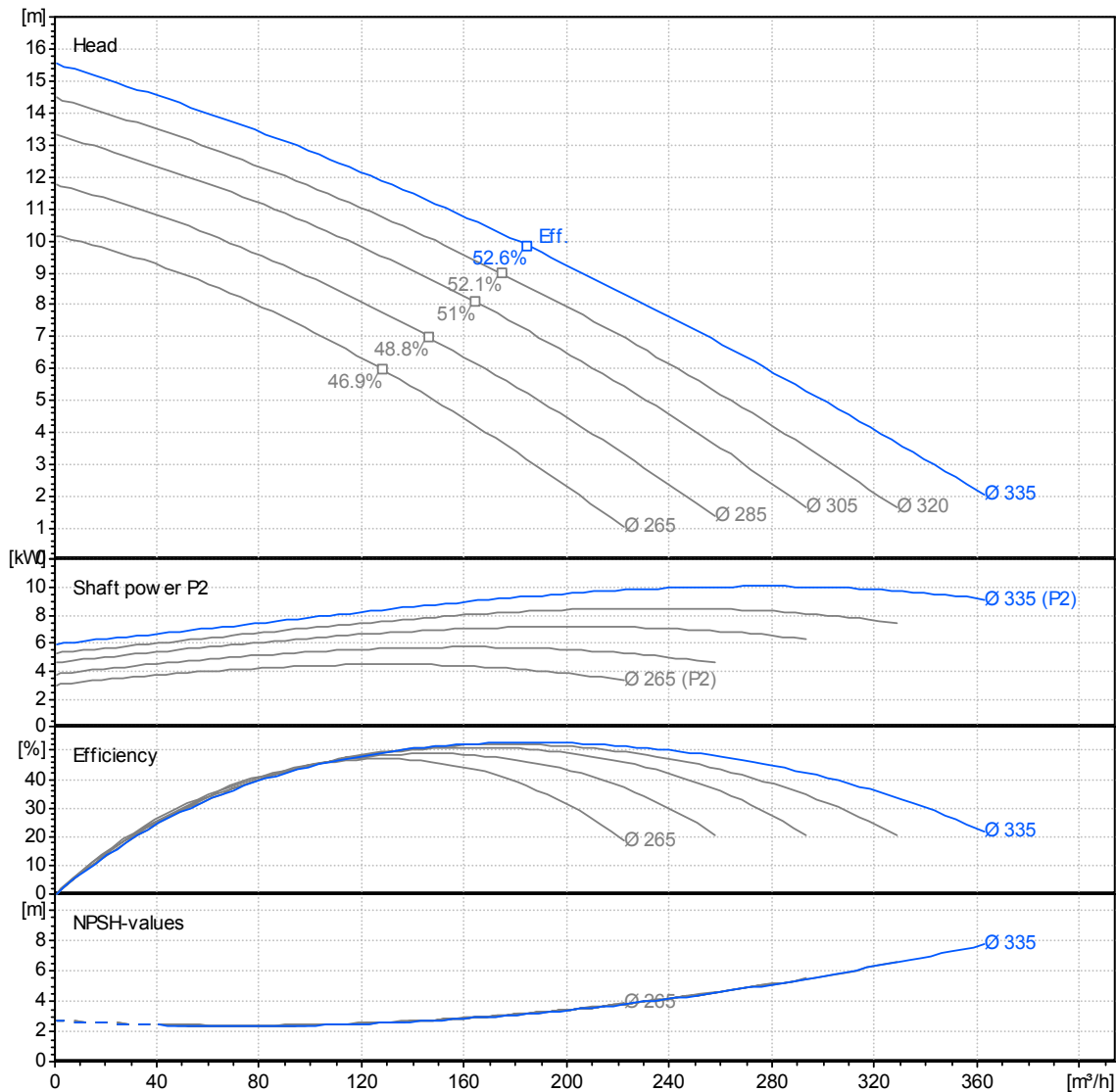
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MSP3-150.0-6 Channel 1 950 RPM



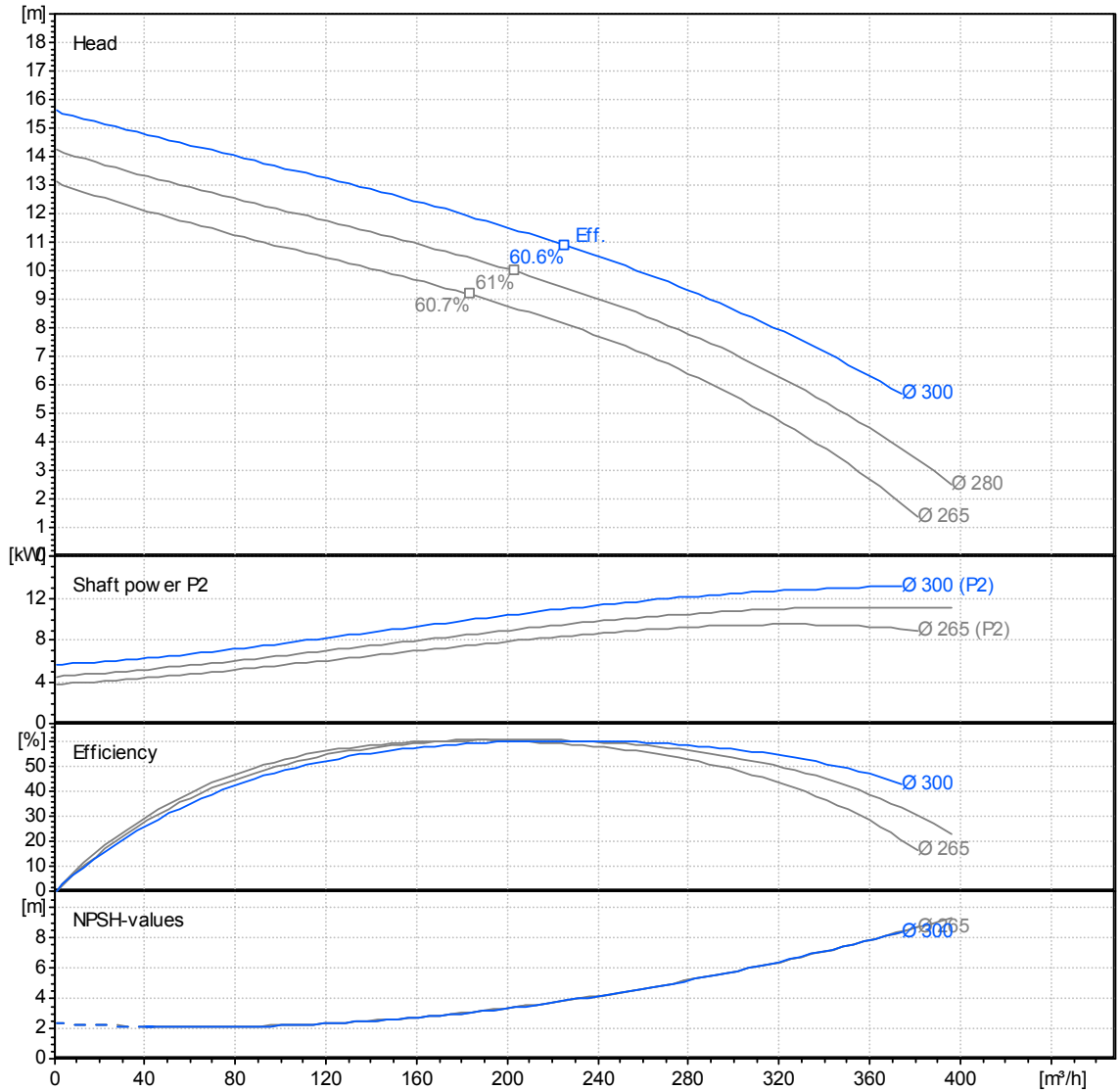
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MSP3-150.0-6 Vortex 1 960 RPM



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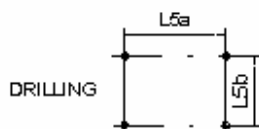
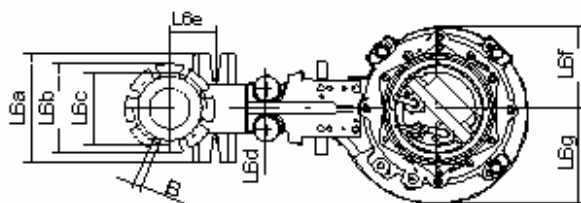
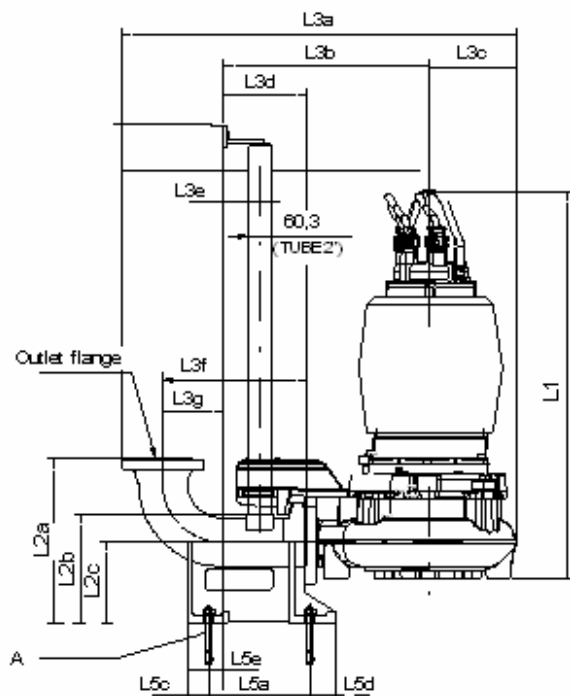
MSP3-150.0-6 Vortex 2 960 RPM



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MSP3-SERIES WET PIT INSTALLATION

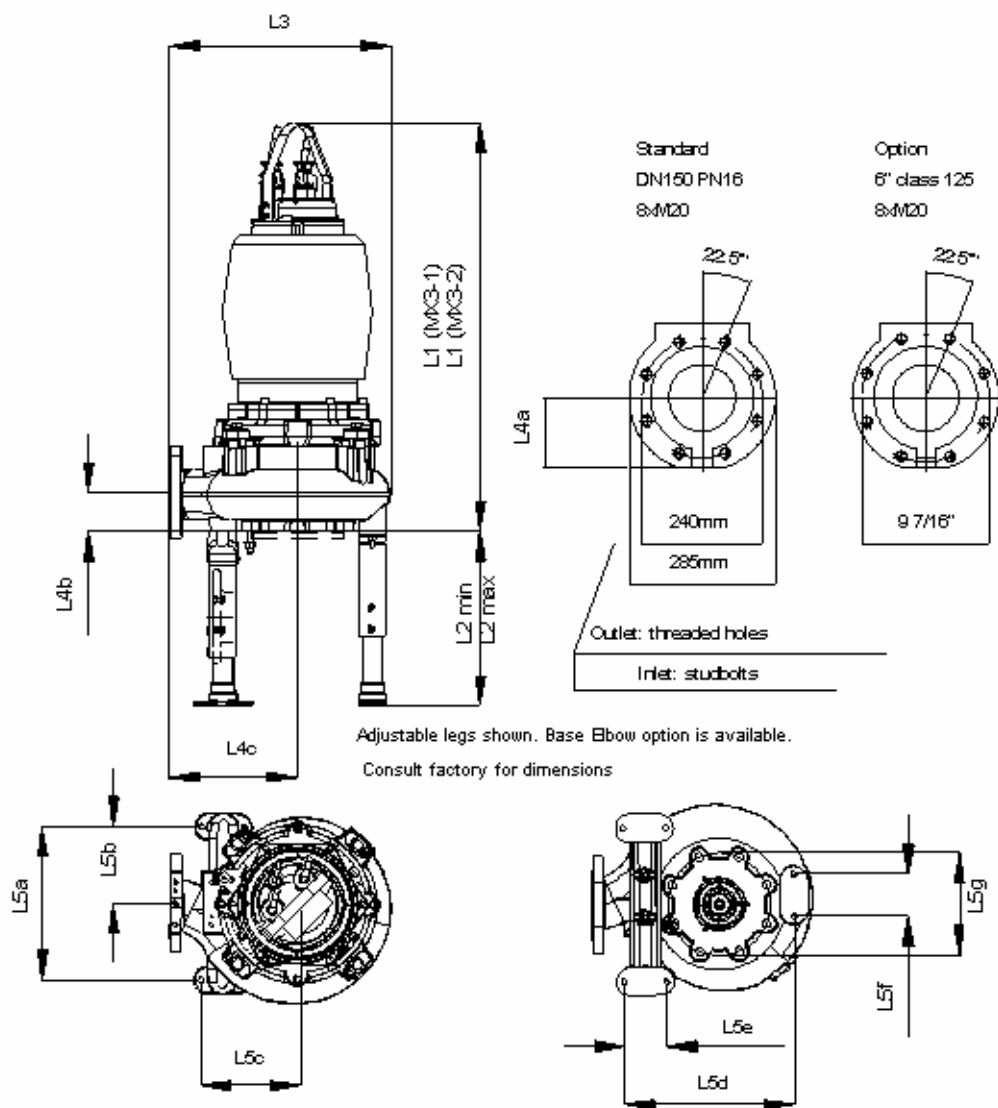


Consult factory for
dimensions

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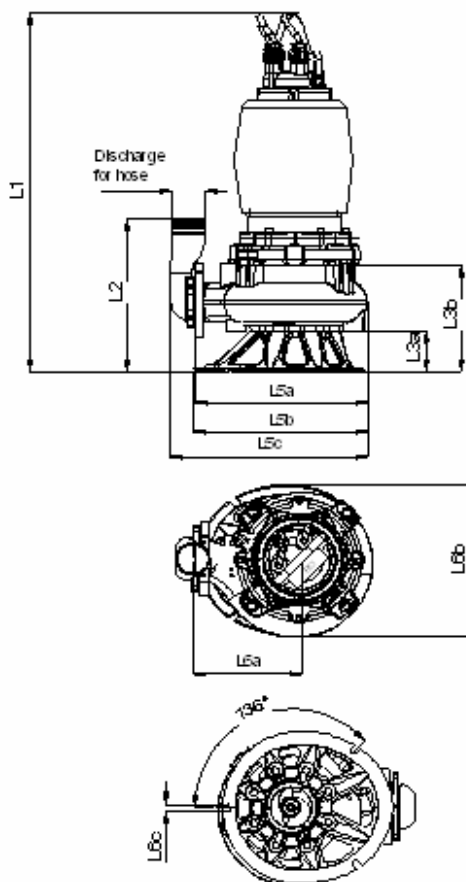
MSP3-SERIES DRY PIT INSTALLATION



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MSP3-SERIES PORTABLE INSTALLATION

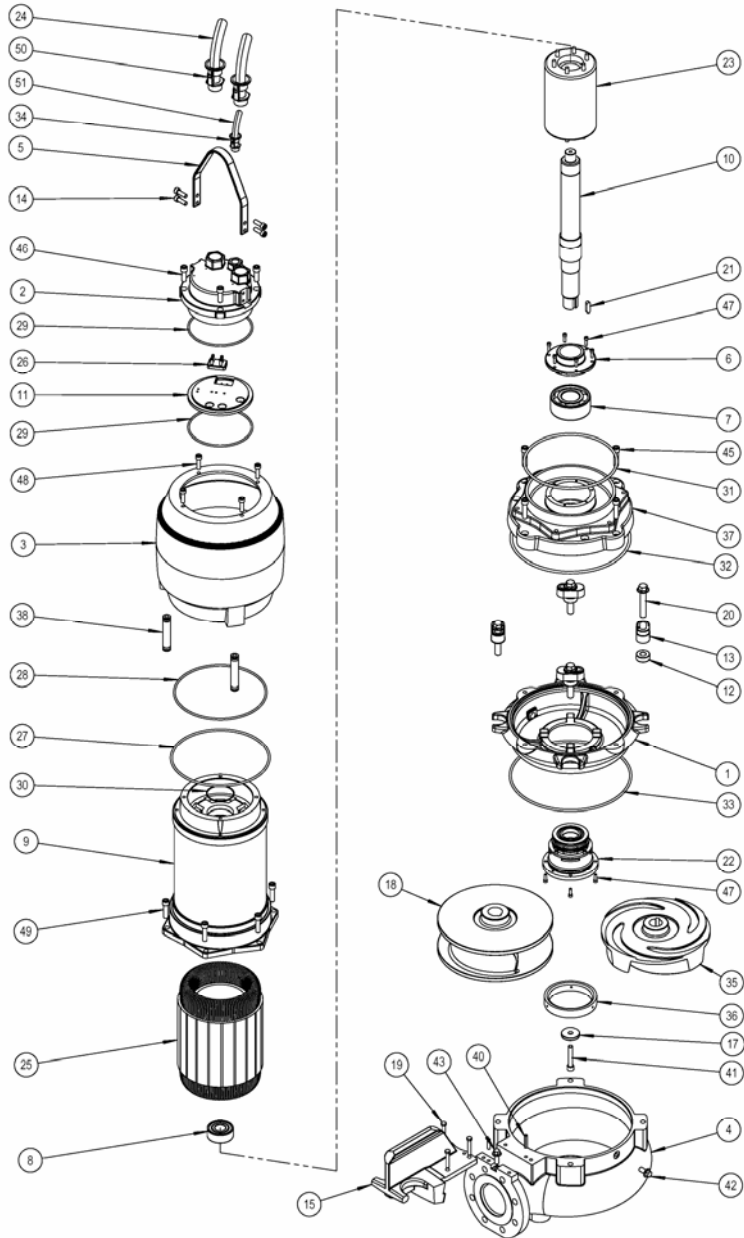


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MSP3-SERIES PARTS SCHEMATIC



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MSP3-SERIES PARTS LIST

ITEM NO.	PART DESCRIPTION	QTY	MATERIAL
1	LOWER COOLING FLANGE	1	ASTM A48 CLASS 35 CAST IRON
2	COVER	1	ASTM A48 CLASS 35 CAST IRON
3	COOLING JACKET	1	ASTM A48 CLASS 35 CAST IRON
4	VOLUTE-100	1	ASTM A48 CLASS 35 CAST IRON
4a	VOLUTE-150		ASTM A48 CLASS 35 CAST IRON
4b	VOLUTE-80		ASTM A48 CLASS 35 CAST IRON
5	HANDLE	1	AISI 304 STAINLESS STEEL
6	BEARING COVER	1	ASTM A48 CLASS 35 CAST IRON
7	BEARING UPPER	1	S.K.F. 62306.2RSR.C3
8	BEARING LOWER	1	S.K.F.3310.A/C3
9	STATOR PX3-2	1	ASTM A48 CLASS 35 CAST IRON
	STATOR PX3-1		ASTM A48 CLASS 35 CAST IRON
10	SHAFT ROTOR PX3-2	1	AISI 431 STAINLESS STEEL
	SHAFT ROTOR PX3-1		AISI 431 STAINLESS STEEL
11	TERMINAL PLATE	1	ASTM A48 CLASS 35 CAST IRON
12	FAST LOCK WASHER (LARGE)	4	TEFLON
13	LATCH BOLT (FAST LOCK)	4	AISI 304 STAINLESS STEEL
14	BOLT	4	AISI 304 STAINLESS STEEL
15	ADAPTER	1	ASTM A395 DUCTILE IRON, GRADE 60-40-18
17	IMPELLER WASHER	1	AISI 304 STAINLESS STEEL
18	CHANNEL IMPELLER CX3-100 □	1	ASTM A395 DUCTILE IRON, GRADE 60-40-18
18a	CHANNEL IMPELLER CXX3-150 □		ASTM A395 DUCTILE IRON, GRADE 60-40-18
18b	CHANNEL IMPELLER CXXX3-150 □		ASTM A395 DUCTILE IRON, GRADE 60-40-18
19	BOLT	4	AISI 304 STAINLESS STEEL
20	BOLT	4	AISI 304 STAINLESS STEEL
21	KEY	1	AISI 304 STAINLESS STEEL
22	PX3 CARTRIDGE ASSEMBLY	1	
23	ROTOR BODY	1	SIEMENS
24	POWER CABLE.		H07RN-F
25	WIRE CORE	1	SIEMENS
26	CABLE CONTACTS	1	
27	O-RING	1	NITRILE RUBBER
28	O-RING	1	NITRILE RUBBER
29	O-RING	2	NITRILE RUBBER
30	O-RING	1	NITRILE RUBBER
31	O-RING	1	NITRILE RUBBER
32	O-RING	1	NITRILE RUBBER
33	O-RING	1	NITRILE RUBBER
34	CABLE SEAL compl.		ASTM A48 CLASS 35 CAST IRON
35	IMPELLER VORTEX VX3-100/150	1	ASTM A395 DUCTILE IRON, GRADE 60-40-18
35a	IMPELLER VORTEX VXX3-150		ASTM A395 DUCTILE IRON, GRADE 60-40-18
	IMPELLER VORTEX VX3-80		ASTM A395 DUCTILE IRON, GRADE 60-40-18
36	WEAR RING PX3-100	1	ASTM A48 CLASS 35 CAST IRON
36a	WEAR RING PX3-150		ASTM A48 CLASS 35 CAST IRON
37	LOWER BEARING HOUSING	1	ASTM A48 CLASS 35 CAST IRON
38	COOLANT TUBE ASSEMBLY for PX3-2	2	RUBBER / STAINLESS STEEL
	COOLANT TUBE ASSEMBLY for PX3-1		RUBBER / STAINLESS STEEL
40	GUIDE PIN	2	STEEL

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MSP3-SERIES PARTS LIST

ITEM NO.	PART DESCRIPTION	QTY	MATERIAL
41	SCREW	1	AISI 304 STAINLESS STEEL
42	PLUG	1	AISI 304 STAINLESS STEEL
43	PLUG	1	AISI 304 STAINLESS STEEL
45	BOLT	1	AISI 304 STAINLESS STEEL
46	BOLT	4	AISI 304 STAINLESS STEEL
47	BOLT	10	AISI 304 STAINLESS STEEL
48	BOLT	4	AISI 304 STAINLESS STEEL
49	BOLT	6	AISI 304 STAINLESS STEEL
50	CABLE SEAL compl.control power	1	ASTM A48 CLASS 35 CAST IRON
51	CONTROL CABLE.		H07RN-F
	O-RING KIT		NITRILE RUBBER