

Vertical Shaft Stainless Steel Pumps

HEXA Series



TECHNICAL MANUAL



HEXA Series

Vertical Stainless Steel Pumps

General Specifications



Mas Grup

Pump

HEXA is a kind of vertical non-self priming multistage centrifugal pump, which is driven by a standard electric motor. The motor output shaft directly connects with the pump shaft through a coupling. The pressure-resistant cylinder and flow passage components are fixed between pump head and inlet & outlet section with stay bolts. The inlet and outlet are located at the pump bottom at the same plane. This kind of pump can be equipped with an intelligent protector to effectively prevent it from dry-running, out-of-phase and overload.

Motor

- Full-enclosed air-blast two-pole standard motor
- Protection class : IP55
- Insulation class : F
- Standard voltage : 50 Hz; 1 x 220-230 / 240V
3 x 200-220 / 346-380V
3 x 220-240 / 380-415V
3 x 380-415V

Application

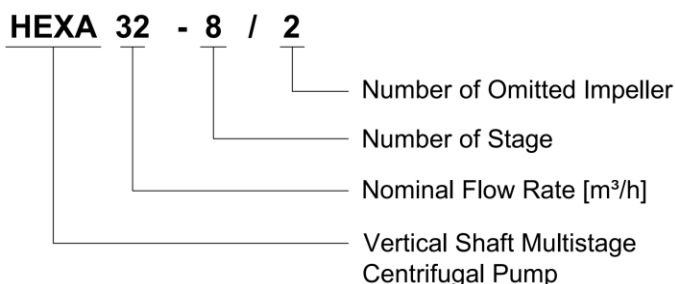
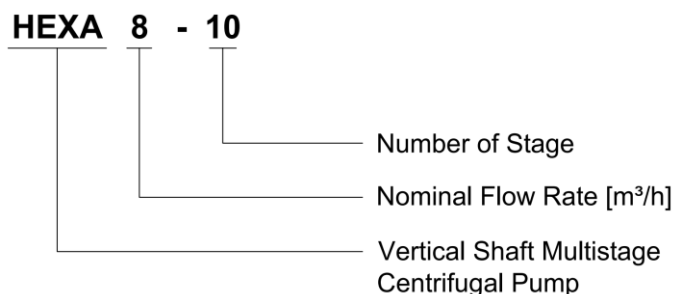
HEXA is a kind of multifunctional products. It can be used to convey various medium from tap water to industrial liquid at different temperature and with different flow rate and pressure.

- Water supply: Water filter and transport in waterworks, boosting of main pipeline, boosting in high-rise buildings.
- Industrial boosting: Process flow water system, cleaning system, high-pressure washing system, fire fighting system.
- Industrial liquid conveying: Cooling and air-conditioning system, boiler water supply and condensing system, machine-associated purpose, acids and alkali.
- Water treatment: Ultrafiltration system, reverse osmosis system, distillation system, separator, swimming pool.
- Irrigation: Farmland irrigation, spray irrigation, dripping irrigation.

Operation Conditions

- Thin, clean, non-flammable and non-explosive liquid containing no solid, granules and fibers.
- Liquid temperature:
Normal temperature type: -15 °C ~ +70 °C,
Hot water type: +70 °C ~ +120 °C
- Ambient temperature: Up to +40 °C
- Altitude: Up to 1000 m

Definition of Model



HEXA Series

Vertical Stainless Steel Pumps

General Specifications



Mas Grup

Maximum Inlet Pressure

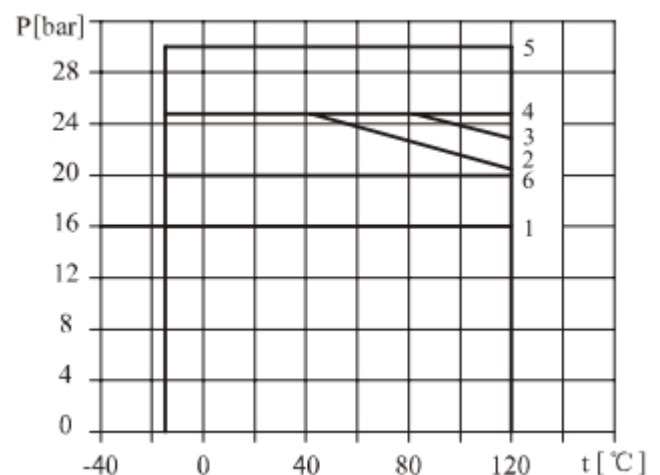
The maximum inlet pressure is shown in the table below. But the actual inlet pressure plus the valve close pressure of the pump shall be lower than the max. allowable working pressure.

Model	Max. Inlet Pressure
HEXA 2	
2 - 2	6 [bar]
2 - 3 ~ 2 - 11	10 [bar]
2 - 13 ~ 2 - 26	15 [bar]
HEXA 4	
4 - 2	6 [bar]
4 - 3 ~ 4 - 10	10 [bar]
4 - 12 ~ 4 - 22	15 [bar]
HEXA 8	
8 - 2/1 ~ 8 - 6	6 [bar]
8 - 8 ~ 8 - 20	10 [bar]
HEXA 12	
12 - 2 ~ 12 - 4	6 [bar]
12 - 5 ~ 12 - 18	10 [bar]
HEXA 16	
16 - 2 ~ 16 - 3	6 [bar]
16 - 4 ~ 16 - 16	10 [bar]
HEXA 20	
20 - 1 ~ 20 - 3	6 [bar]
20 - 4 ~ 20 - 17	10 [bar]
HEXA 32	
32 - 1 - 1 ~ 32 - 2 - 2	3 [bar]
32 - 2 ~ 32 - 40	4 [bar]
32 - 5 - 2 ~ 32 - 10	10 [bar]
32 - 11 ~ 32 - 14	15 [bar]
HEXA 45	
45 - 1 - 1	3 [bar]
45 - 1 ~ 45 - 2	4 [bar]
45 - 3 - 2 ~ 45 - 5	10 [bar]
45 - 6 - 2 ~ 45 - 13-2	15 [bar]
HEXA 64	
64 - 1 - 1 ~ 64 - 2 - 2	4 [bar]
64 - 2 - 1 ~ 64 - 3	10 [bar]
64 - 4 - 2 ~ 64 - 8 - 1	15 [bar]
HEXA 90	
90 - 1 - 1 ~ 90 - 1	4 [bar]
90 - 2 - 2 ~ 90 - 3 - 2	10 [bar]
90 - 3 - 1 ~ 90 - 6	15 [bar]

Maximum Working Pressure

Model	Curve Number
HEXA 2	
2 - 2 - 15	1
2 - 18 ~ 2 - 26	2
HEXA 4	
4 - 2 ~ 4 - 16	1
4 - 19 ~ 4 - 22	2
HEXA 8	
8 - 2/1 ~ 8 - 12	1
8 - 14 ~ 8 - 20	3
HEXA 12	
12 - 2 ~ 12 - 10	1
12 - 12 ~ 12 - 18	3
HEXA 16	
16 - 2 ~ 16 - 8	1
16 - 10 ~ 16 - 16	3
HEXA 20	
20 - 1 ~ 20 - 8	1
20 - 10 ~ 20 - 17	3
HEXA 32	
32 - 1 - 1 ~ 32 - 7	1
32 - 8 - 2 ~ 32 - 12	4
32 - 13 ~ 32 - 14	5
HEXA 45	
45 - 1 - 1 ~ 45 - 6	1
45 - 7 - 2 ~ 45 - 9	4
45 - 10 - 2 ~ 45 - 13 - 2	5
HEXA 64	
64 - 1 - 1 ~ 64 - 5	1
64 - 6 - 2 ~ 64 - 8 - 1	4
HEXA 90	
90 - 1 - 1 ~ 90 - 5 - 2	1
90 - 5 ~ 90 - 60	4

The following figure shows the limitation of pressure and temperature, which shall be in the scope as shown in the figure.



HEXA Series

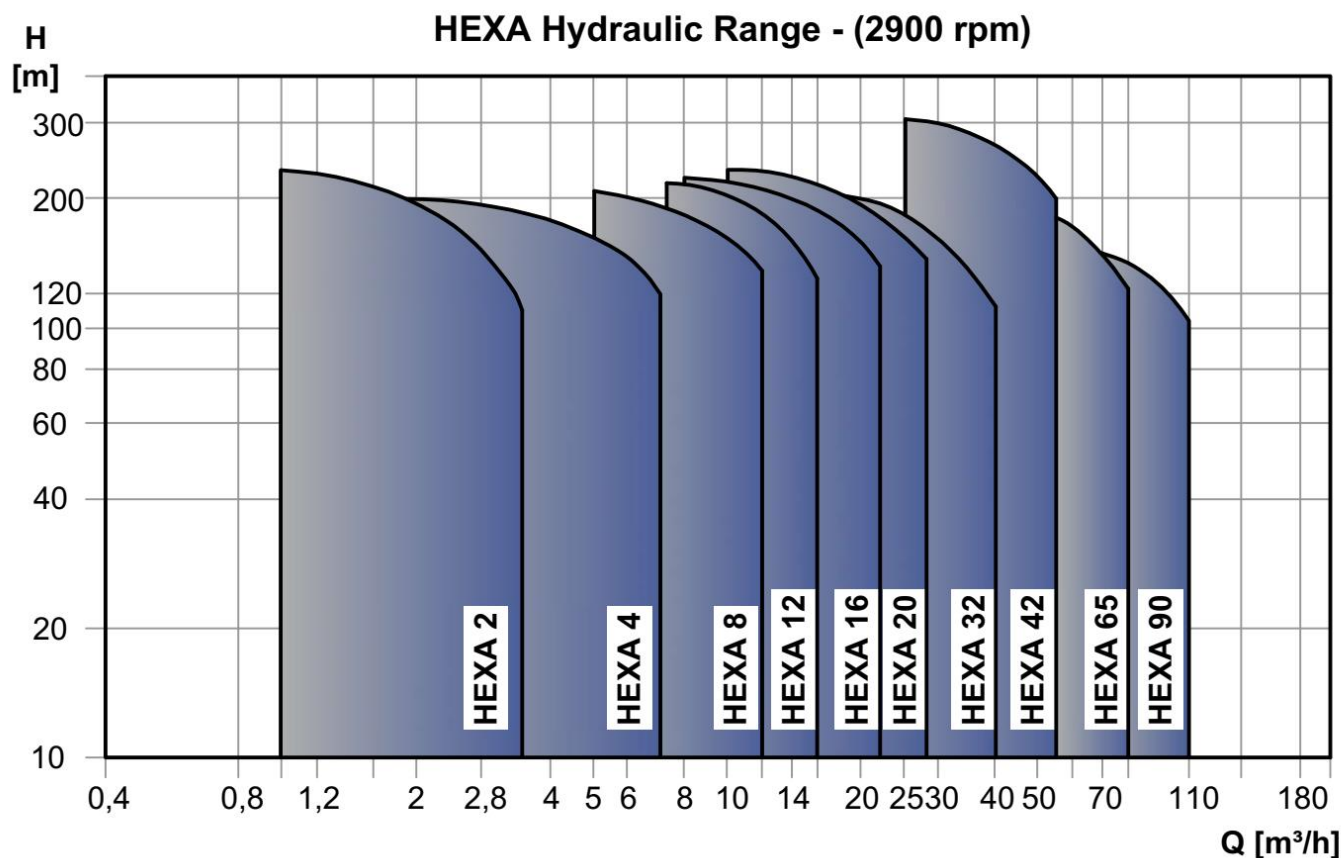
Vertical Stainless Steel Pumps

General Specifications



Mas Grup

Performance Scope



Product Range

Description	HEXA 2	HEXA 4	HEXA 8	HEXA 12	HEXA 16	HEXA 20	HEXA 32	HEXA 45	HEXA 64	HEXA 90
Rated Flow [m³/h]	2	4	8	12	16	20	32	45	65	90
Rated Flow [l/s]	0.56	1.1	2.2	3.3	4.4	5.6	8.9	11.7	18	24
Flow Range [m³/h]	1 - 3.5	1.5 - 7	5 - 12	7 - 16	8 - 22	10 - 28	16 - 40	25 - 55	30 - 80	50 - 110
Flow Range [l/s]	0.28 - 0.97	0.42 - 1.9	1.4 - 3.3	1.9 - 4.4	2.2 - 6.1	2.8 - 7.8	4.4 - 11.1	6.9 - 15.3	8.3 - 22.2	13.8 - 30.5
Max. Pressure [bar]	23	21	21	22	22	23	26	30	22	17
Motor Power [kW]	0.37 - 3	0.37 - 4	0.75 - 7.5	1.5 - 11	2.2 - 15	1.1 - 18.5	1.5 - 30	3.0 - 45	4.0 - 45	5.5 - 45
Temperature Range [°C]	-15 ~ +120									
Max. Efficiency [%]	46	59	64	63	66	69	76	78	80	81

Pipe Connection

DIN Flange	DN25	DN32	DN40	DN50	DN50	DN50	DN65	DN80	DN100	DN100
Cutting Ferrule Joint	•	•	•	•	•	•				
Pipe Thread	•	•	•	•	•	•				

HEXA Series

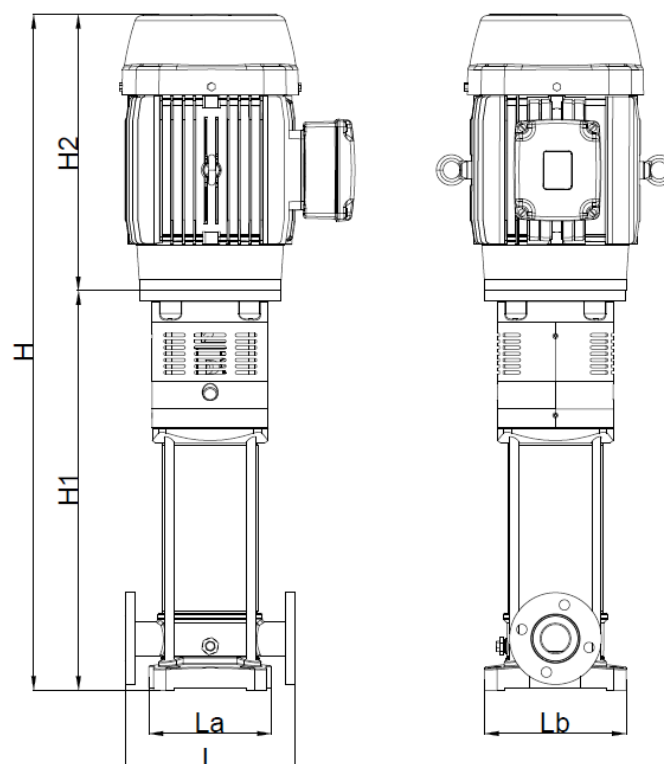
Vertical Stainless Steel Pumps

Pump Dimensions

HEXA 2



Mas Grup



Model	Power (kW)	La	Lb	L	H1	H2	H
HEXA 2-06	0.75	148	210	250	364	239	603
HEXA 2-07	0.75	148	210	250	382	239	621
HEXA 2-09	1.1	148	210	250	418	239	657
HEXA 2-11	1.1	148	210	250	454	239	693
HEXA 2-13	1.5	148	210	250	490	259	749
HEXA 2-15	1.5	148	210	250	526	259	785
HEXA 2-18	2.2	148	210	250	580	284	864
HEXA 2-22	2.2	148	210	250	652	284	936
HEXA 2-26	3	148	210	250	724	316	1040

HEXA Series

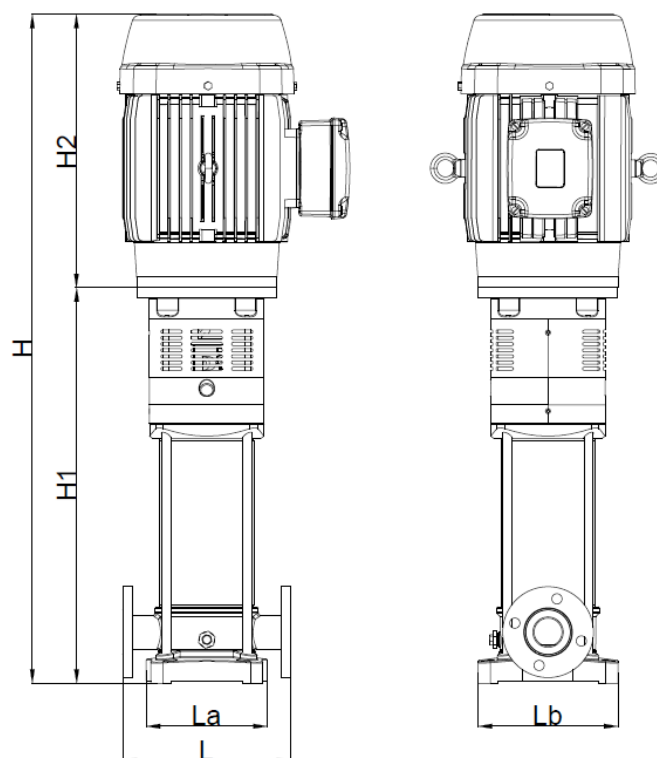
Vertical Stainless Steel Pumps

Pump Dimensions

HEXA 4



Mas Grup



Model	Power (kW)	La	Lb	L	H1	H2	H
HEXA 4-04	0.75	148	210	250	390	239	629
HEXA 4-05	1.1	148	210	250	417	239	656
HEXA 4-06	1.1	148	210	250	444	239	683
HEXA 4-07	1.5	148	210	250	471	259	730
HEXA 4-08	1.5	148	210	250	498	259	757
HEXA 4-10	2.2	148	210	250	552	284	836
HEXA 4-12	2.2	148	210	250	606	284	890
HEXA 4-14	3	148	210	250	660	316	976
HEXA 4-16	3	148	210	250	714	316	1030
HEXA 4-19	4	148	210	250	795	336	1131
HEXA 4-22	4	148	210	250	876	336	1212

HEXA Series

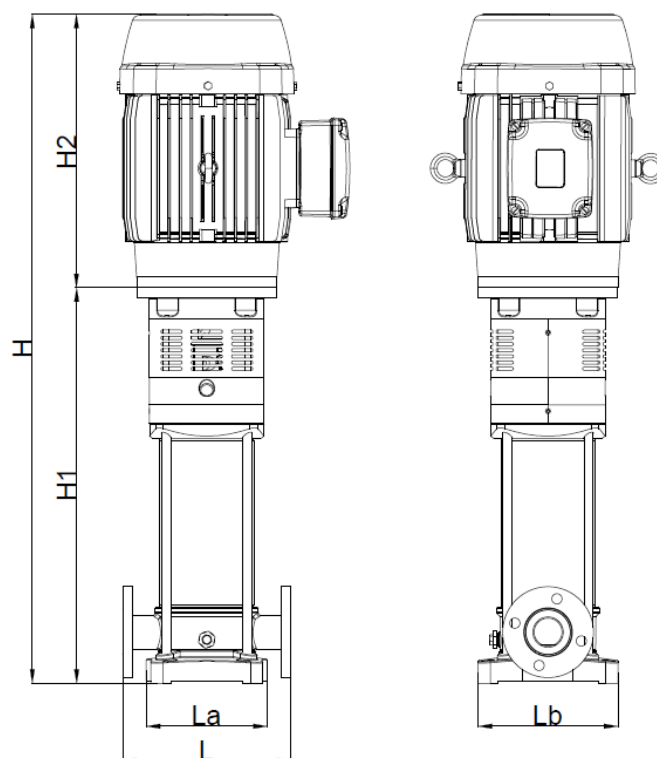
Vertical Stainless Steel Pumps

Pump Dimensions

HEXA 8



Mas Grup



Model	Power (kW)	La	Lb	L	H1	H2	H
HEXA 8-04	1.5	200	250	280	456	259	715
HEXA 8-05	2.2	200	250	280	486	284	770
HEXA 8-06	2.2	200	250	280	516	284	800
HEXA 8-08	3	200	250	280	576	316	892
HEXA 8-10	4	200	250	280	636	336	972
HEXA 8-12	4	200	250	280	696	336	1032
HEXA 8-14	5.5	200	250	280	756	380	1136
HEXA 8-16	5.5	200	250	280	816	380	1196
HEXA 8-18	7.5	200	250	280	876	380	1256
HEXA 8-20	7.5	200	250	280	936	380	1316

HEXA Series

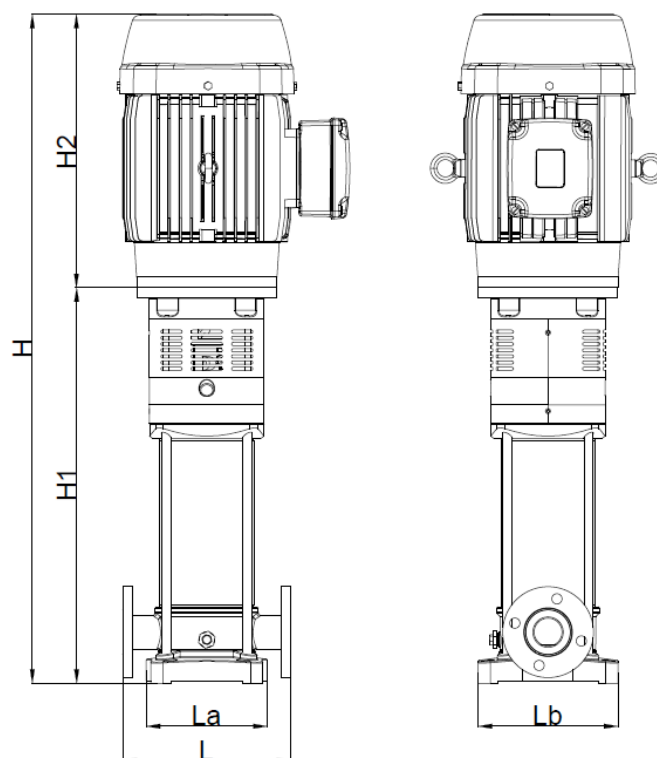
Vertical Stainless Steel Pumps

Pump Dimensions

HEXA 12



Mas Grup



Model	Power (kW)	La	Lb	L	H1	H2	H
HEXA 12-02	1.5	200	250	300	396	259	655
HEXA 12-03	2.2	200	250	300	426	284	710
HEXA 12-04	3	200	250	300	456	316	772
HEXA 12-05	3	200	250	300	486	316	802
HEXA 12-06	4	200	250	300	516	336	852
HEXA 12-07	5.5	200	250	300	546	380	926
HEXA 12-08	5.5	200	250	300	576	380	956
HEXA 12-09	5.5	200	250	300	606	380	986
HEXA 12-10	7.5	200	250	300	636	380	1016
HEXA 12-12	7.5	200	250	300	696	380	1076
HEXA 12-14	11	200	250	300	756	490	1246
HEXA 12-16	11	200	250	300	816	490	1306
HEXA 12-18	11	200	250	300	876	490	1366

HEXA Series

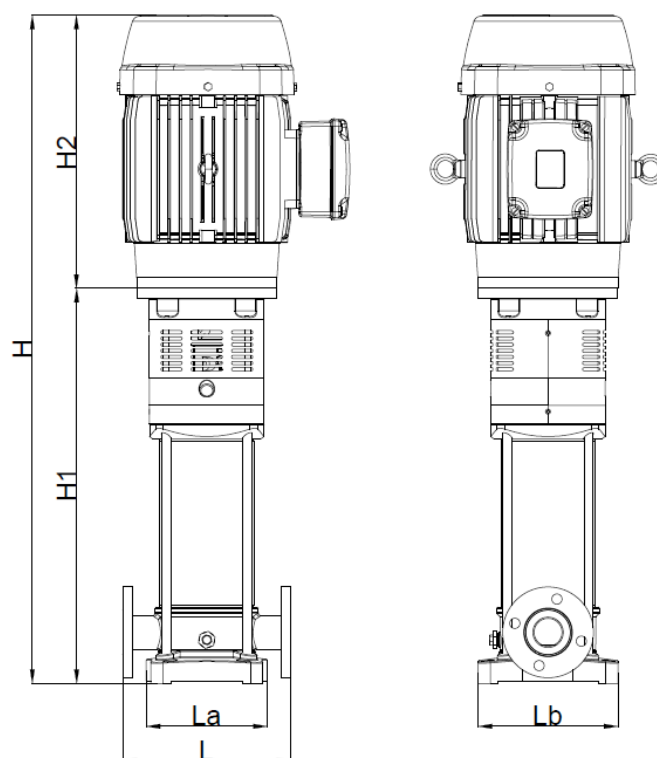
Vertical Stainless Steel Pumps

Pump Dimensions

HEXA 16



Mas Grup



Model	Power (kW)	La	Lb	L	H1	H2	H
HEXA 16-02	2.2	200	250	300	333	284	617
HEXA 16-03	3	200	250	300	378	316	694
HEXA 16-04	4	200	250	300	423	336	759
HEXA 16-05	5.5	200	250	300	468	380	848
HEXA 16-06	5.5	200	250	300	513	380	893
HEXA 16-07	7.5	200	250	300	558	380	938
HEXA 16-08	7.5	200	250	300	603	380	983
HEXA 16-10	11	200	250	300	693	490	1183
HEXA 16-12	11	200	250	300	783	490	1273
HEXA 16-14	15	200	250	300	873	490	1363
HEXA 16-16	15	200	250	300	963	490	1453

HEXA Series

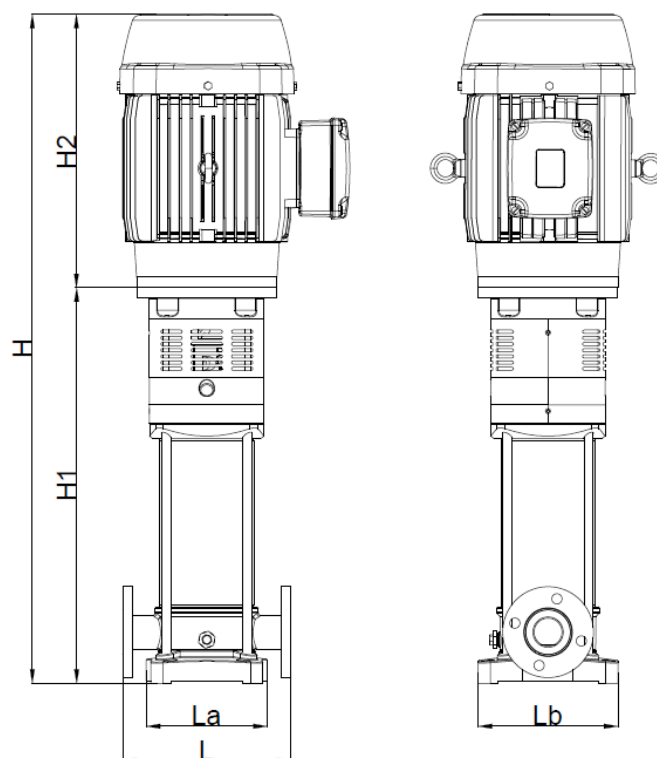
Vertical Stainless Steel Pumps

Pump Dimensions

HEXA 20



Mas Grup



Model	Power (kW)	La	Lb	L	H1	H2	H
HEXA 20-02	2.2	200	250	300	333	284	617
HEXA 20-03	4	200	250	300	378	336	714
HEXA 20-04	5.5	200	250	300	423	380	803
HEXA 20-05	5.5	200	250	300	468	380	848
HEXA 20-06	7.5	200	250	300	513	380	893
HEXA 20-07	7.5	200	250	300	558	380	938
HEXA 20-08	11	200	250	300	603	490	1093
HEXA 20-10	11	200	250	300	693	490	1183
HEXA 20-12	15	200	250	300	783	490	1273
HEXA 20-14	15	200	250	300	873	490	1363
HEXA 20-17	18.5	200	250	300	1008	534	1542

HEXA Series

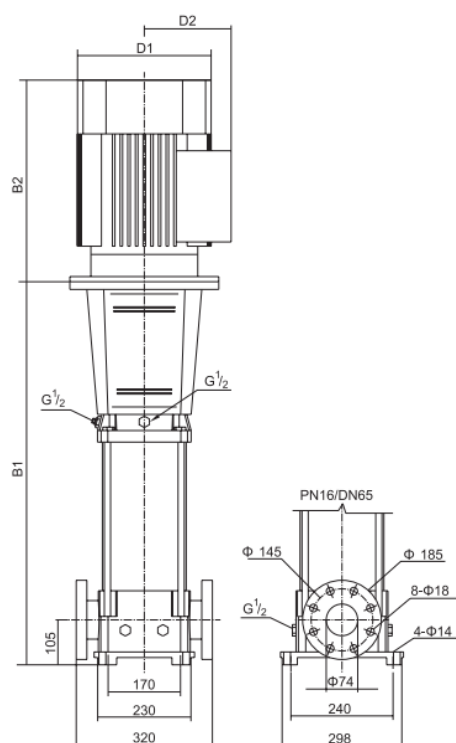
Vertical Stainless Steel Pumps

Pump Dimensions



Mas Grup

HEXA 32



Model	Power (kW)	B1	B2	B1+B2	D1	D2
HEXA 32-2-2	3	634	325	959	191	140
HEXA 32-2	4	634	355	989	212	163
HEXA 32-3-2	5.5	724	395	1119	258	163
HEXA 32-3	5.5	724	395	1119	258	163
HEXA 32-4-2	7.5	794	395	1189	258	163
HEXA 32-4	7.5	794	395	1189	258	163
HEXA 32-5-2	11	894	498	1392	315	251
HEXA 32-5	11	894	498	1392	315	251
HEXA 32-6-2	11	964	498	1462	315	251
HEXA 32-6	11	964	498	1462	315	251
HEXA 32-7-2	15	1034	498	1532	315	251
HEXA 32-7	15	1034	498	1532	315	251
HEXA 32-8-2	15	1104	498	1602	315	251
HEXA 32-8	15	1104	498	1602	315	251
HEXA 32-9-2	18.5	1174	542	1716	315	251
HEXA 32-9	18.5	1174	542	1716	315	251
HEXA 32-10-2	18.5	1244	542	1786	315	251
HEXA 32-10	18.5	1244	542	1786	315	251
HEXA 32-11-2	22	1314	578	1892	355	267
HEXA 32-11	22	1314	578	1892	355	267
HEXA 32-12-2	22	1384	578	1962	355	267
HEXA 32-12	22	1384	578	1962	355	267
HEXA 32-13-2	30	1454	669	2123	397	299
HEXA 32-13	30	1454	669	2123	397	299
HEXA 32-14-2	30	1524	669	2193	397	299
HEXA 32-14	30	1524	669	2193	397	299

HEXA Series

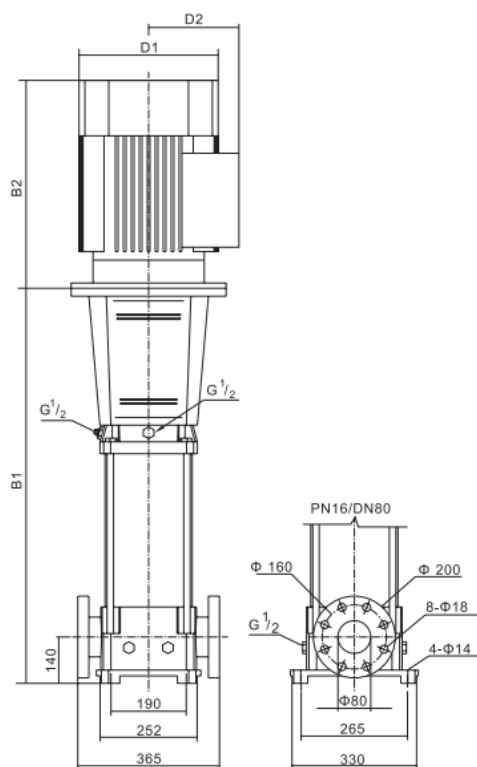
Vertical Stainless Steel Pumps

Pump Dimensions



Mas Grup

HEXA 45



Model	Power (kW)	B1	B2	B1+B2	D1	D2
HEXA 45-2-2	5.5	716	395	1111	258	163
HEXA 45-2	7.5	716	395	1111	258	163
HEXA 45-3-2	11	826	498	1324	315	251
HEXA 45-3	11	826	498	1324	315	251
HEXA 45-4-2	15	906	498	1404	315	251
HEXA 45-4	15	906	498	1404	315	251
HEXA 45-5-2	18.5	986	542	1528	315	251
HEXA 45-5	18.5	986	542	1528	315	251
HEXA 45-6-2	22	1066	578	1644	355	267
HEXA 45-6	22	1066	578	1644	355	267
HEXA 45-7-2	30	1146	669	1815	397	299
HEXA 45-7	30	1146	669	1815	397	299
HEXA 45-8-2	30	1226	669	1895	397	299
HEXA 45-8	30	1226	669	1895	397	299
HEXA 45-9-2	30	1306	669	1975	397	299
HEXA 45-9	37	1386	669	1975	397	299
HEXA 45-10-2	37	1386	669	2055	397	299
HEXA 45-10	37	1466	669	2055	446	299
HEXA 45-11-2	45	1466	709	2135	446	322
HEXA 45-11	45	1546	709	2175	446	322
HEXA 45-12-2	45	1546	709	2255	446	322
HEXA 45-12	45	1626	709	2355	446	322
HEXA 45-13-2	45	1626	709	2355	446	322

HEXA Series

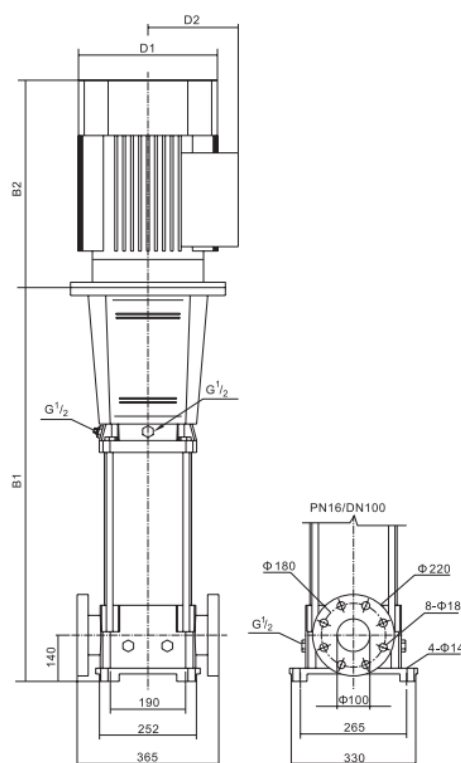
Vertical Stainless Steel Pumps

Pump Dimensions



Mas Grup

HEXA 64



Model	Power (kW)	B1	B2	B1+B2	D1	D2
HEXA 64-2-2	7.5	685	390	1075	259	203
HEXA 64-2-1	11	715	498	1213	314	251
HEXA 64-2	11	715	498	1213	314	251
HEXA 64-3-2	15	825	498	1323	314	251
HEXA 64-3-1	15	825	498	1323	314	251
HEXA 64-3	18.5	825	542	1367	314	251
HEXA 64-4-2	18.5	905	542	1447	314	251
HEXA 64-4-1	22	905	578	1483	355	267
HEXA 64-4	22	905	578	1483	355	267
HEXA 64-5-2	30	985	669	1654	397	299
HEXA 64-5-1	30	985	669	1654	397	299
HEXA 64-5	30	985	669	1654	397	299
HEXA 64-6-2	30	1065	669	1734	397	299
HEXA 64-6-1	37	1065	669	1734	397	299
HEXA 64-6	37	1065	669	1734	397	299
HEXA 64-7-2	37	1145	669	1814	397	299
HEXA 64-7-1	37	1145	669	1814	397	299
HEXA 64-7	45	1145	709	1854	446	322
HEXA 64-8-2	45	1225	709	1934	446	322
HEXA 64-8-1	45	1225	709	1934	446	322
HEXA 64-8	45	1225	709	1934	446	322

HEXA Series

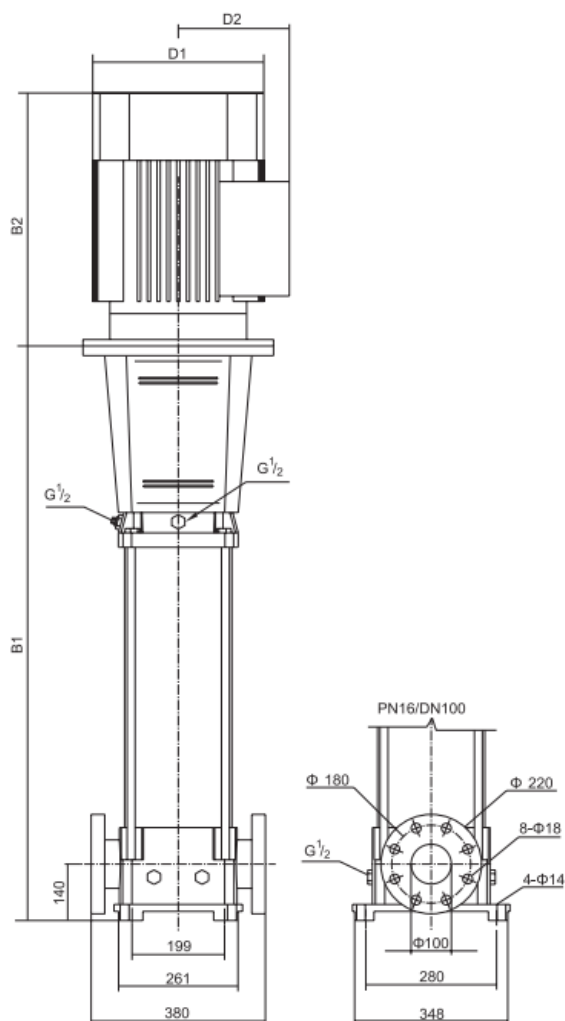
Vertical Stainless Steel Pumps

Pump Dimensions

HEXA 90



Mas Grup



Model	Power (kW)	B1	B2	B1+B2	D1	D2
HEXA 90-2-2	11	771	498	1269	314	251
HEXA 90-2	15	771	498	1269	314	251
HEXA 90-3-2	18.5	863	542	1405	314	251
HEXA 90-3	22	863	578	1441	355	267
HEXA 90-4-2	30	955	669	1624	397	299
HEXA 90-4	30	955	669	1624	397	299
HEXA 90-5-2	37	1047	669	1716	397	299
HEXA 90-5	37	1047	669	1716	397	299
HEXA 90-6-2	45	1139	709	1848	446	322
HEXA 90-6	45	1139	709	1848	446	322

HEXA Series

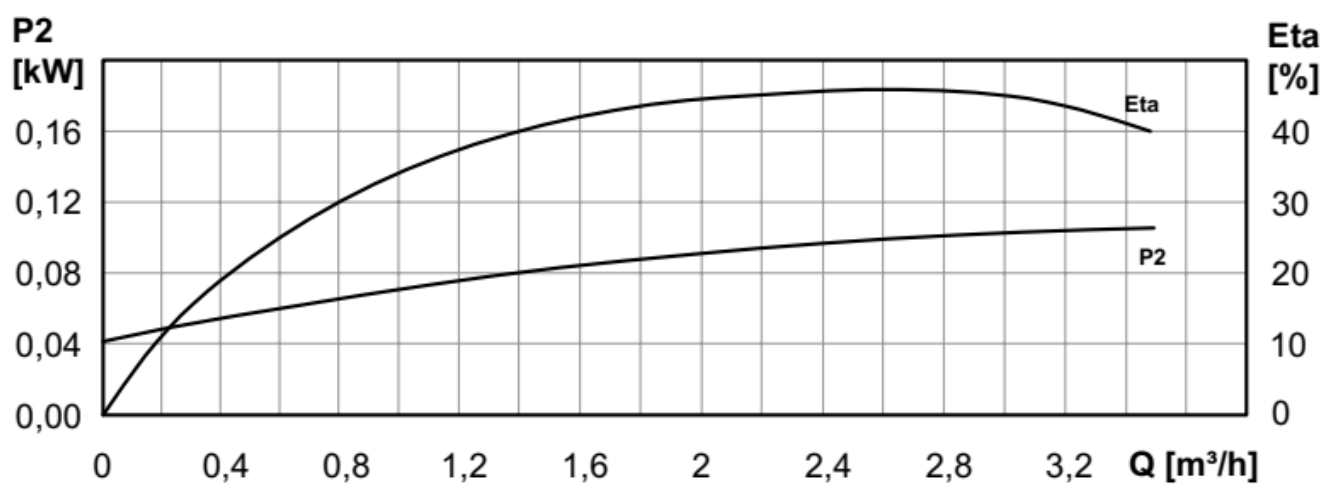
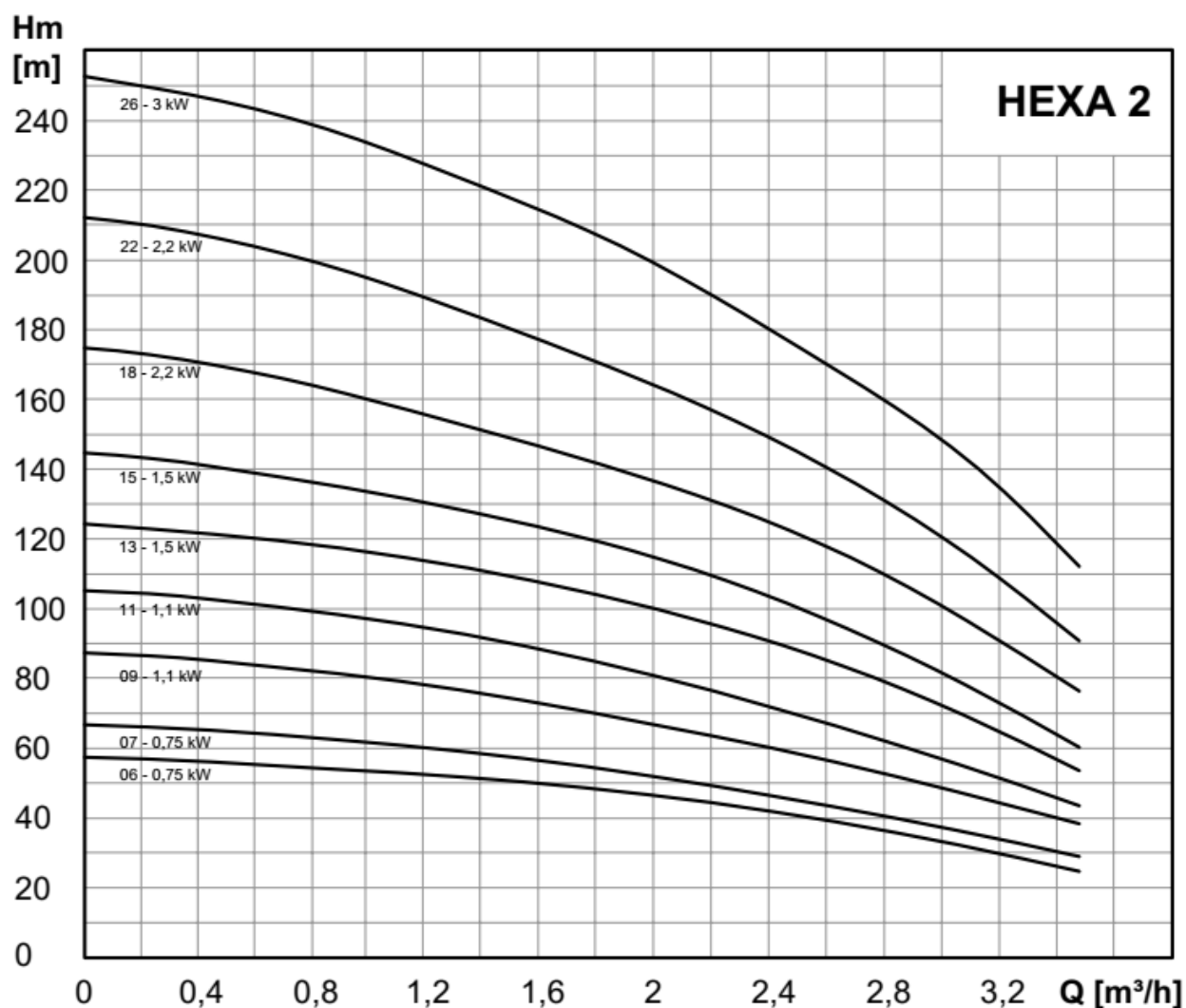
Vertical Stainless Steel Pumps

Performance Curves

HEXA 2



Mas Grup



HEXA Series

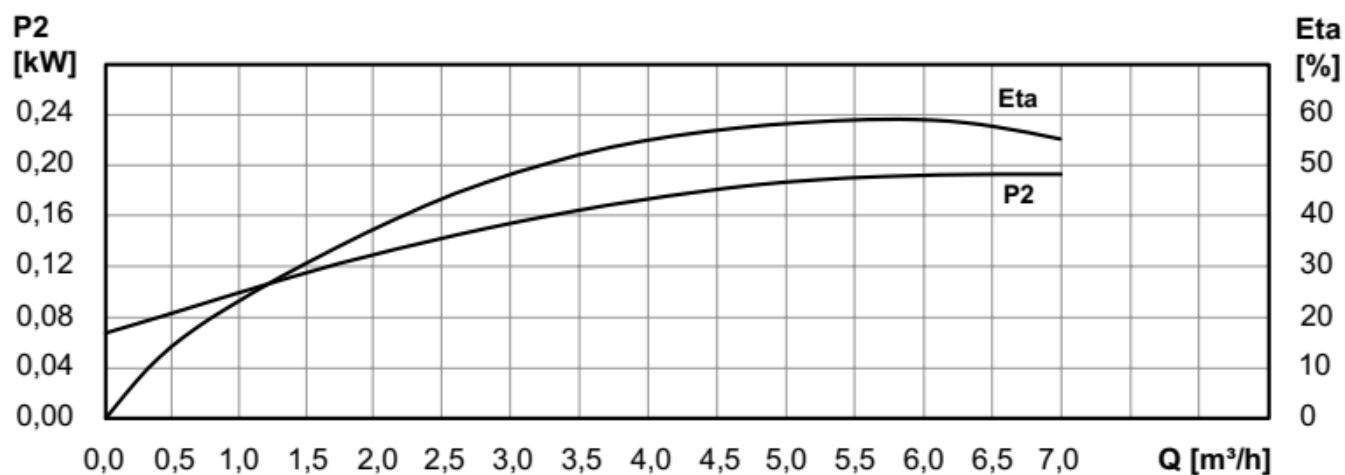
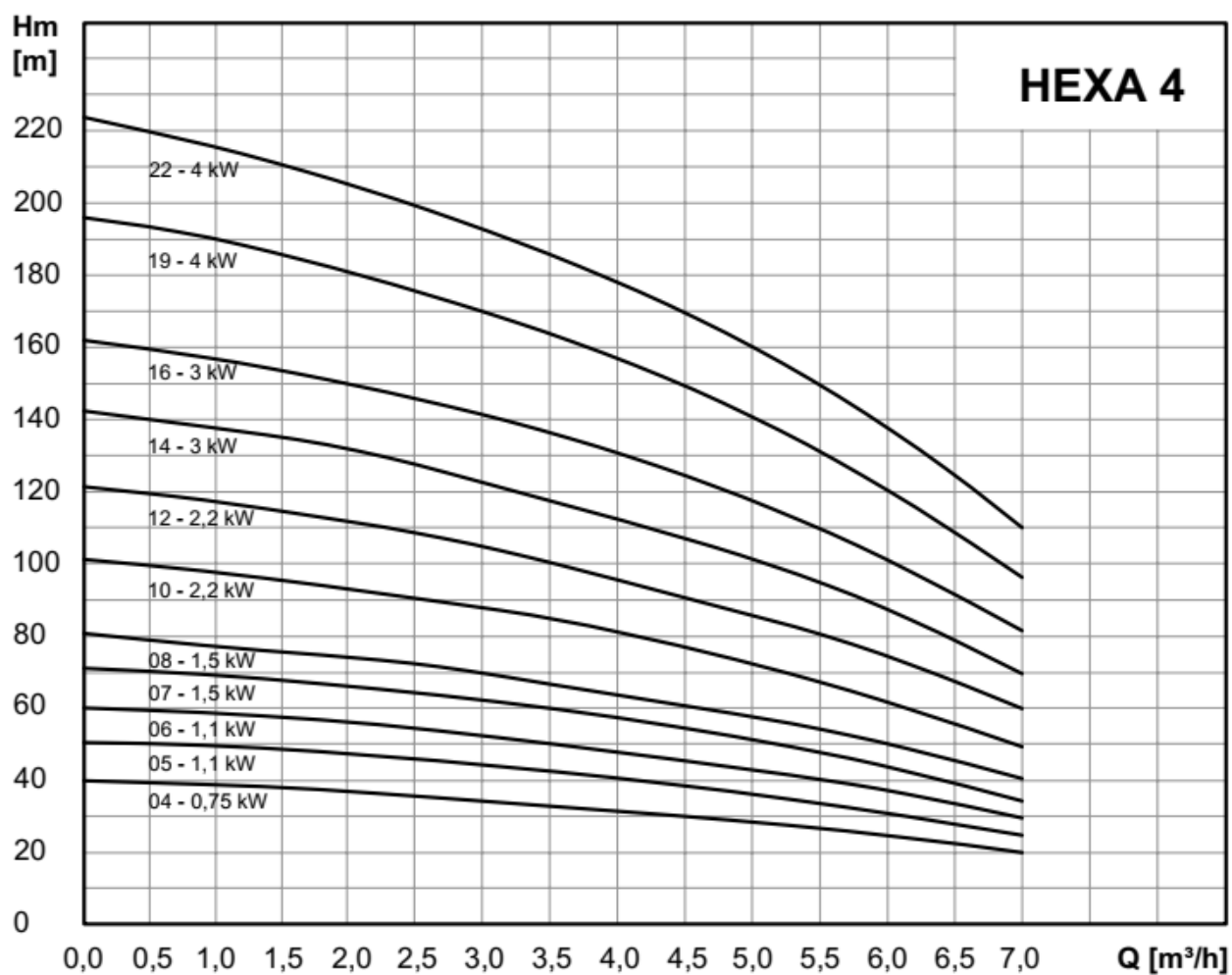
Vertical Stainless Steel Pumps

Performance Curves

HEXA 4



Mas Grup



HEXA Series

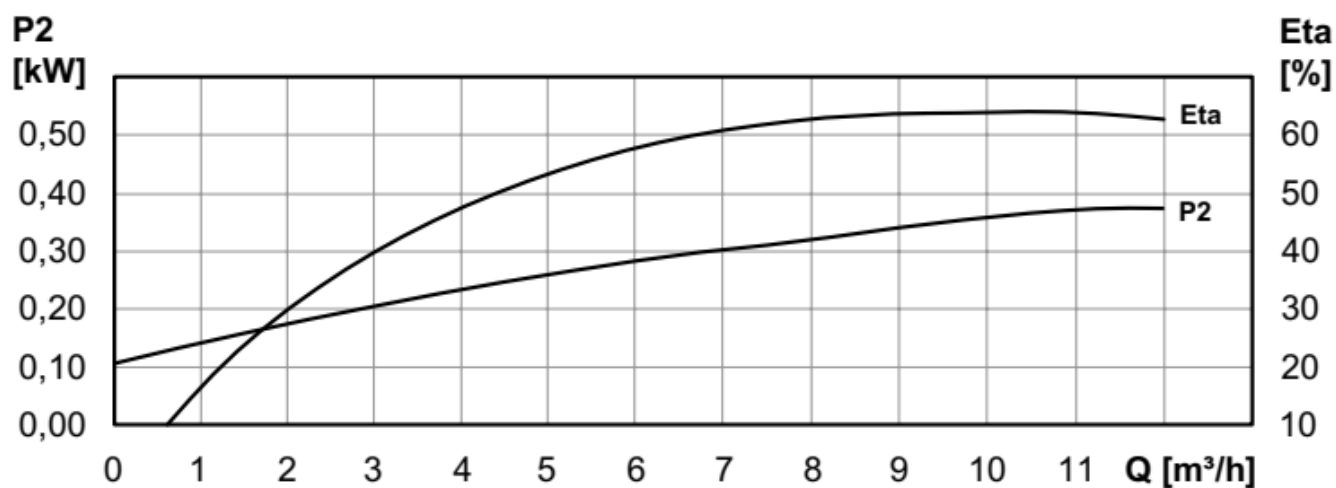
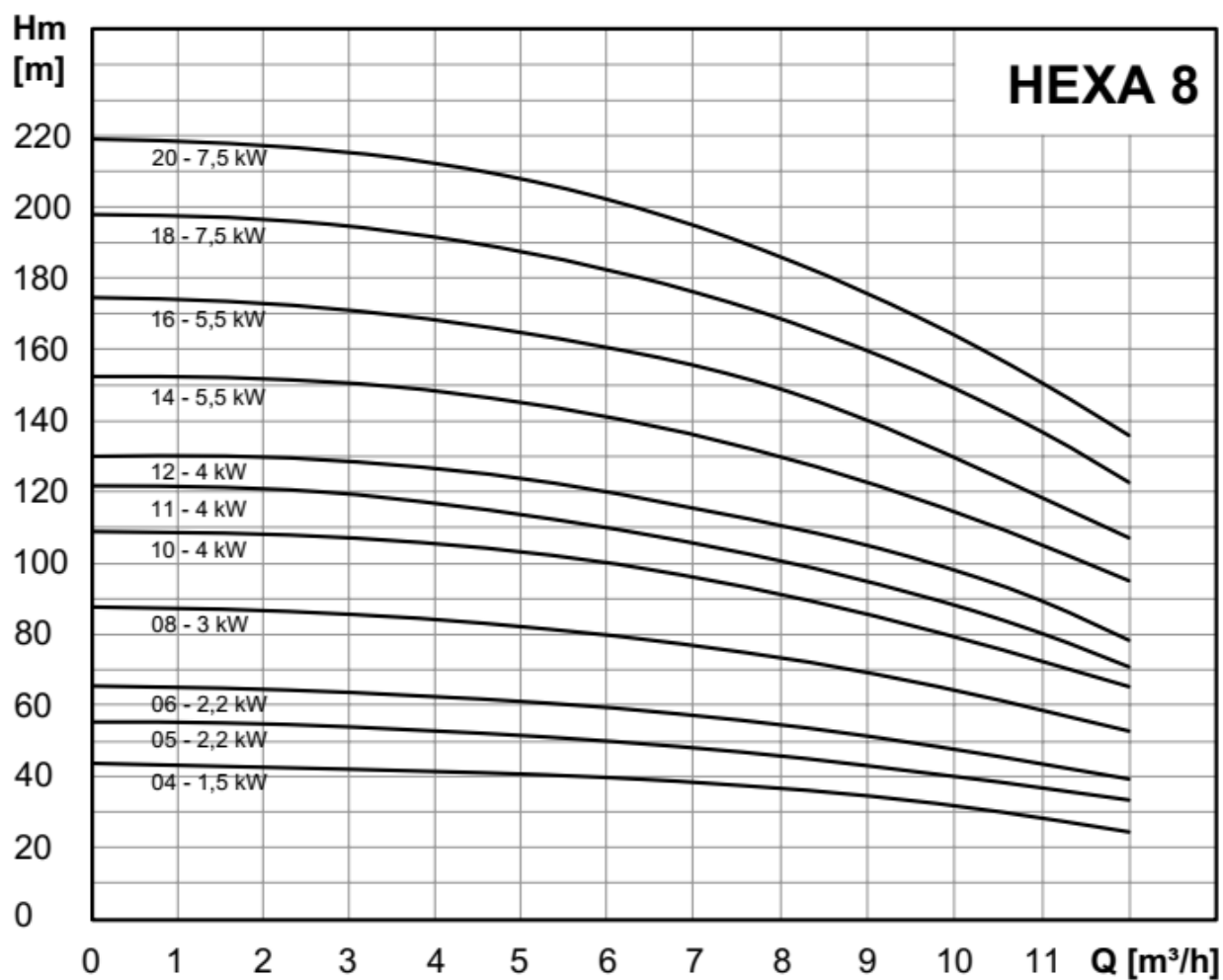
Vertical Stainless Steel Pumps

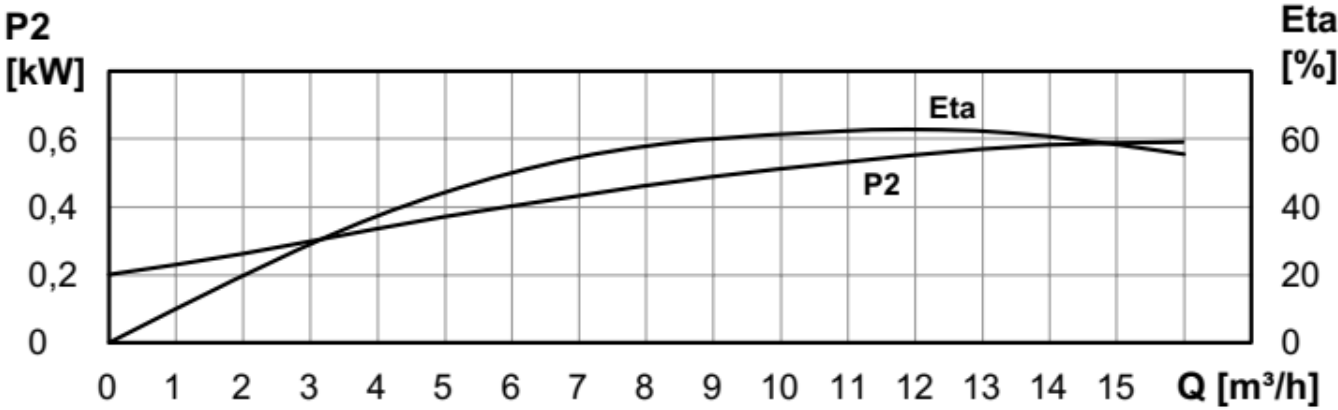
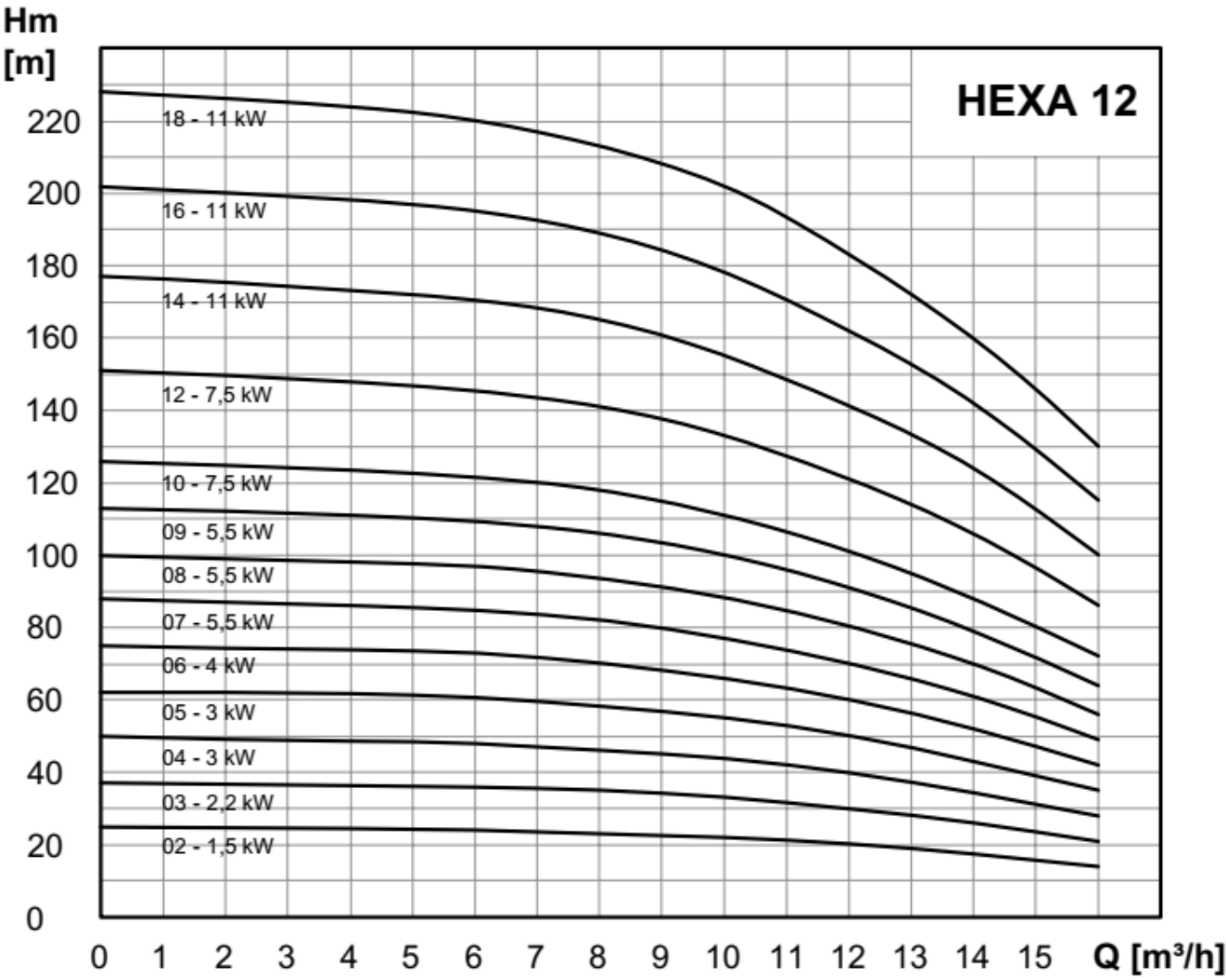
Performance Curves

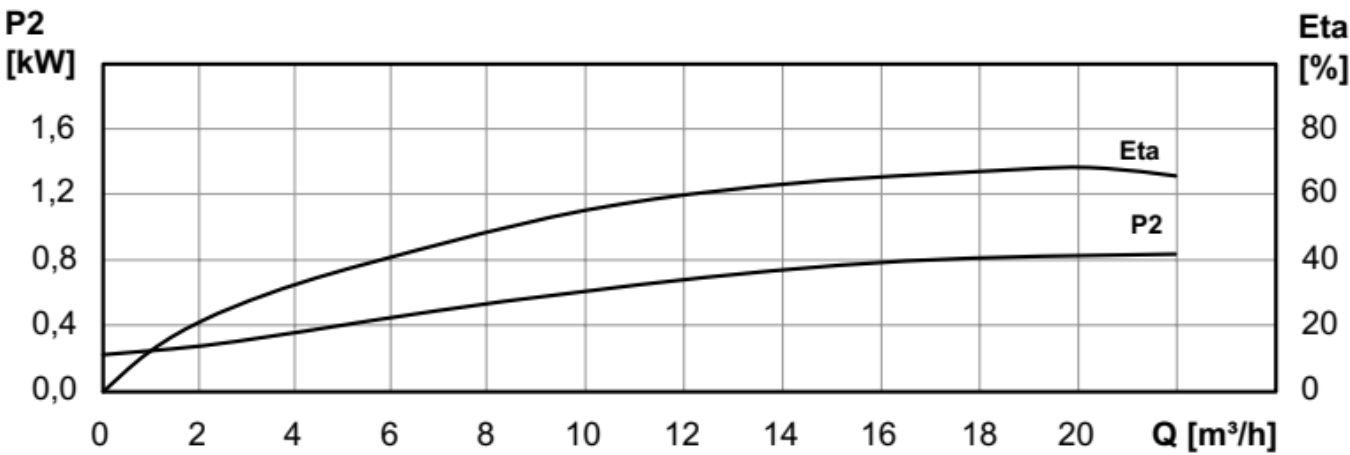
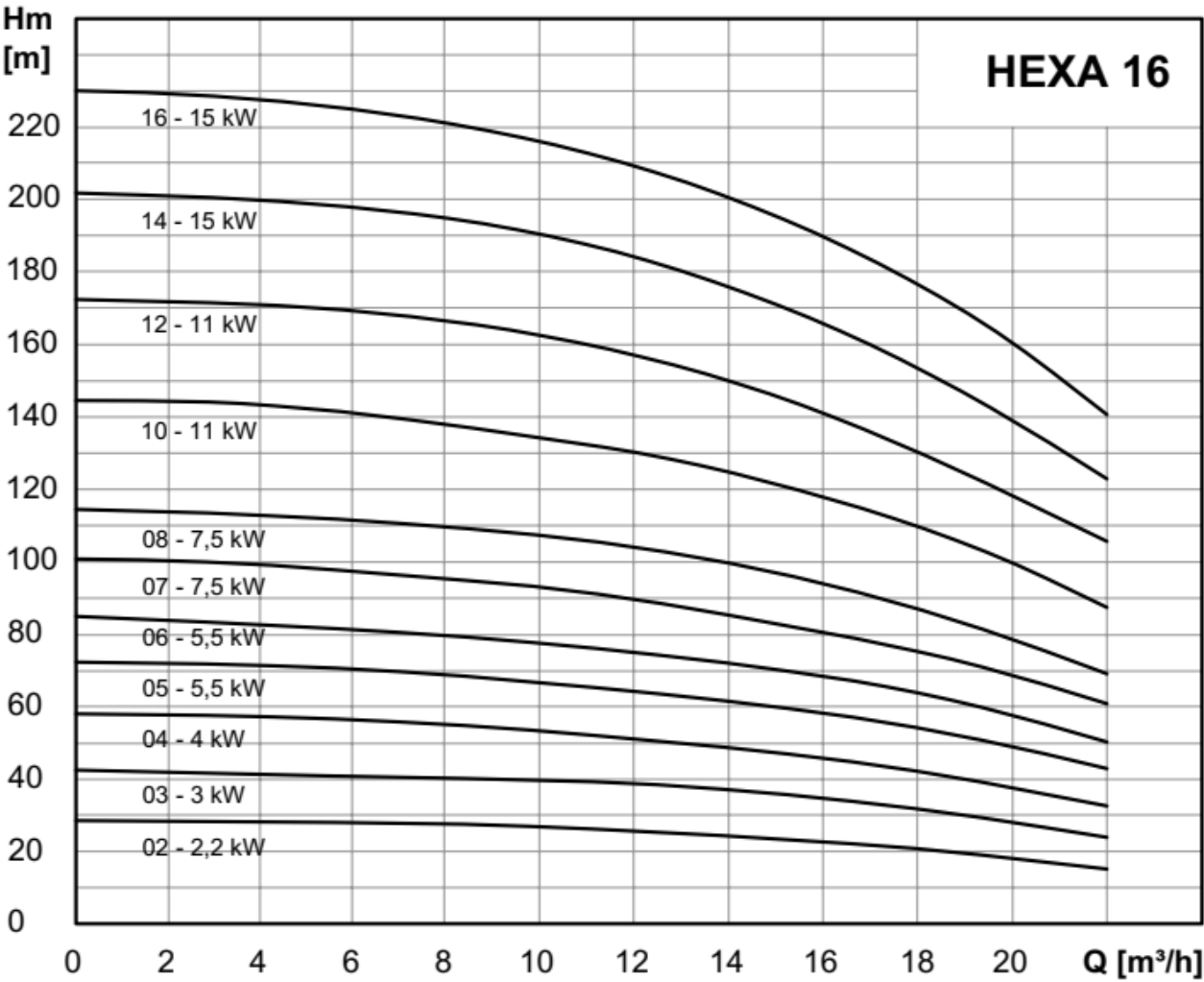
HEXA 8



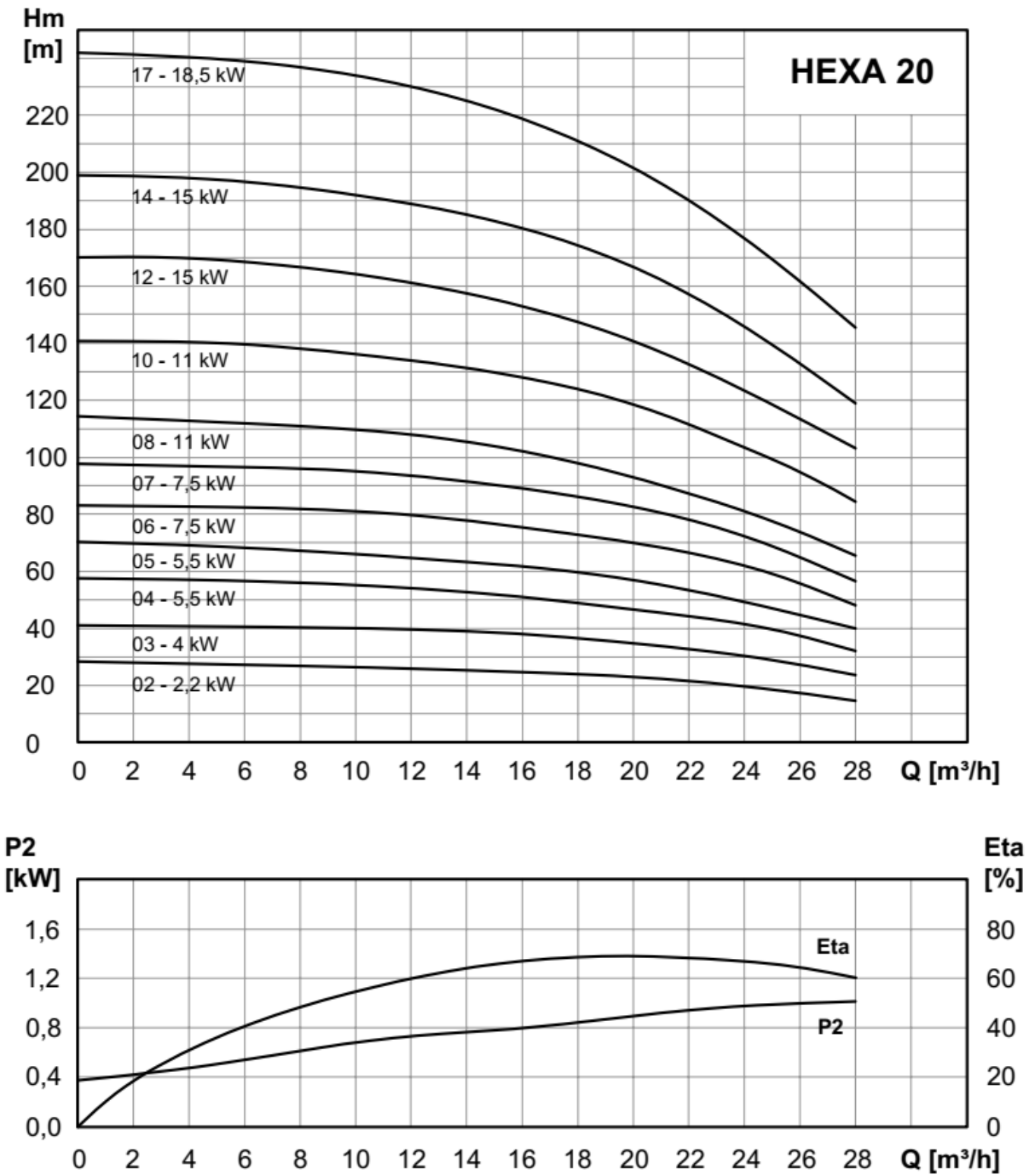
Mas Grup







HEXA 20



HEXA Series

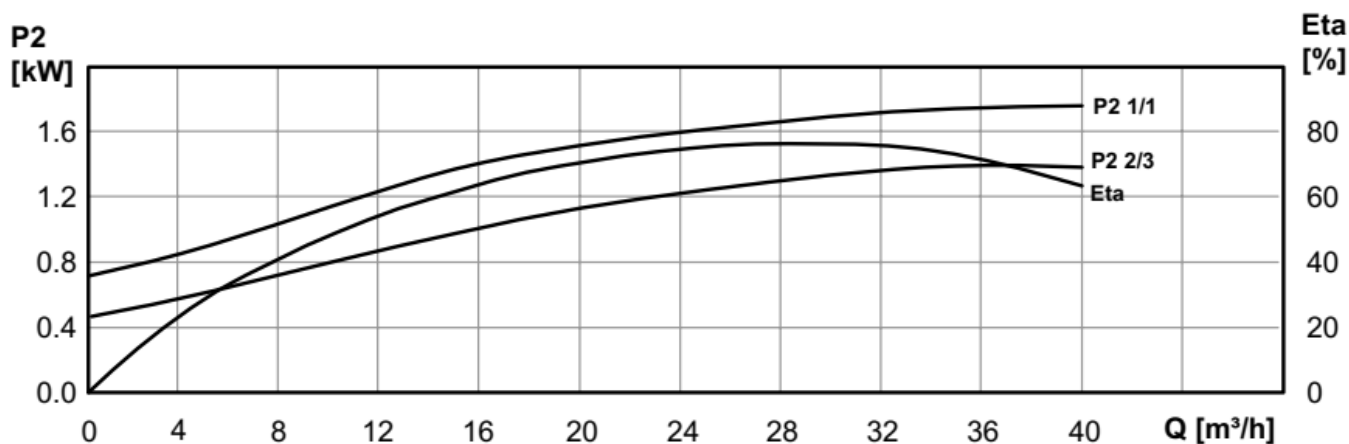
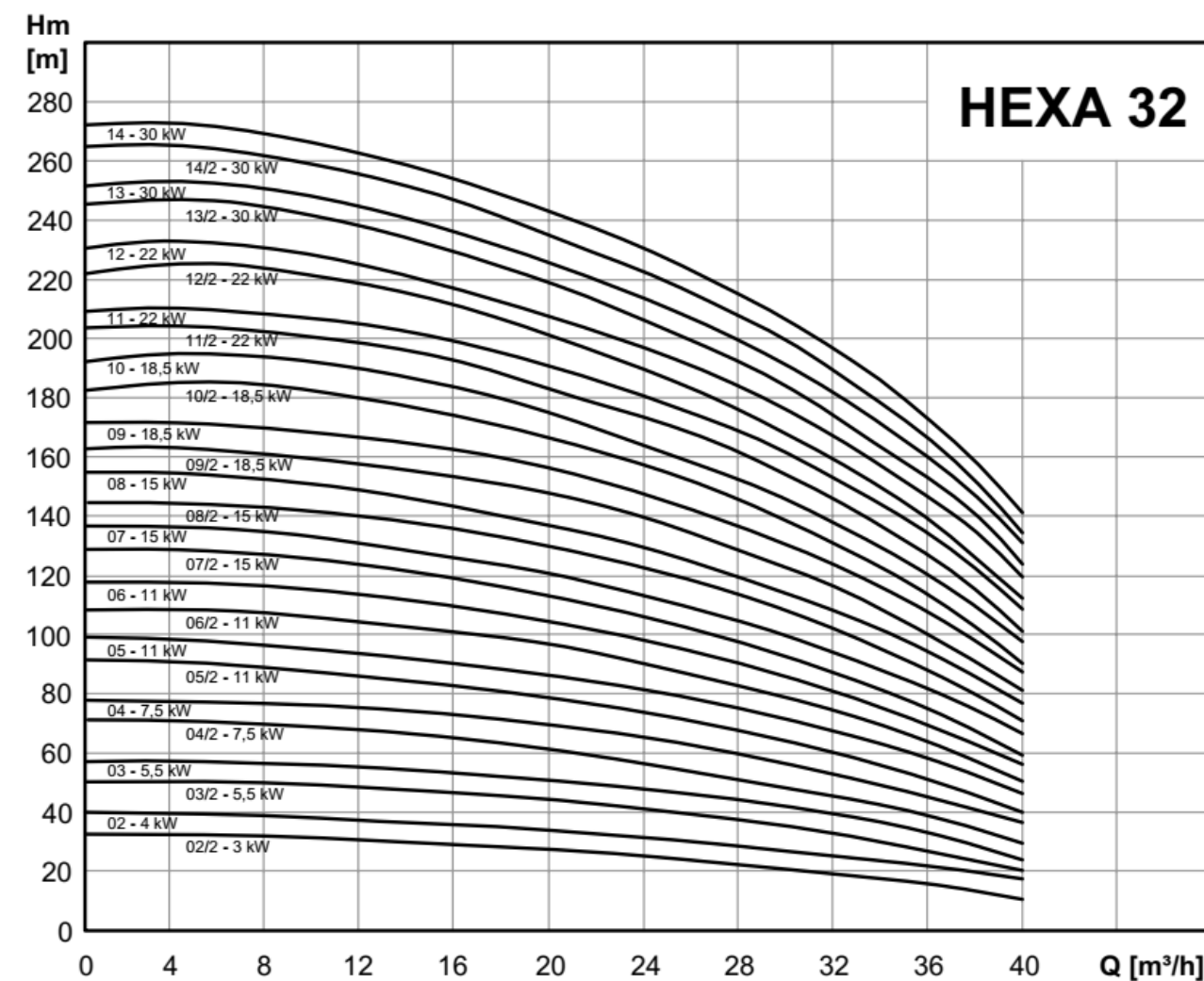
Vertical Stainless Steel Pumps

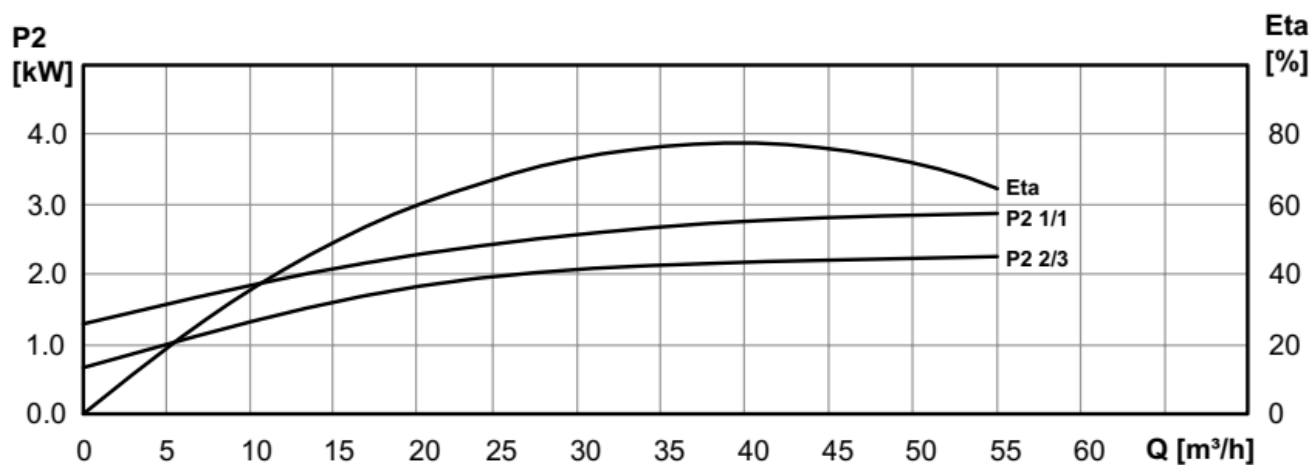
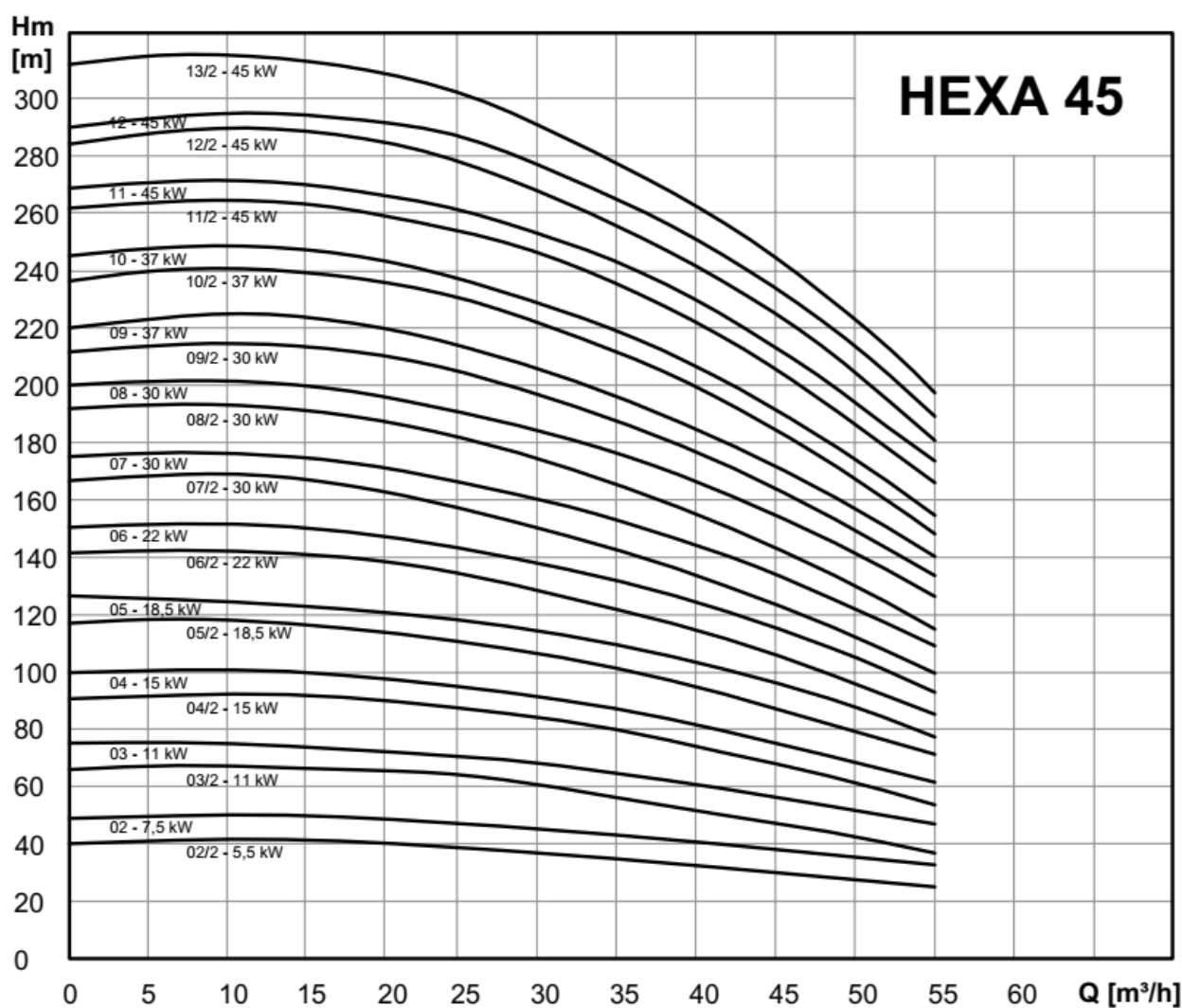
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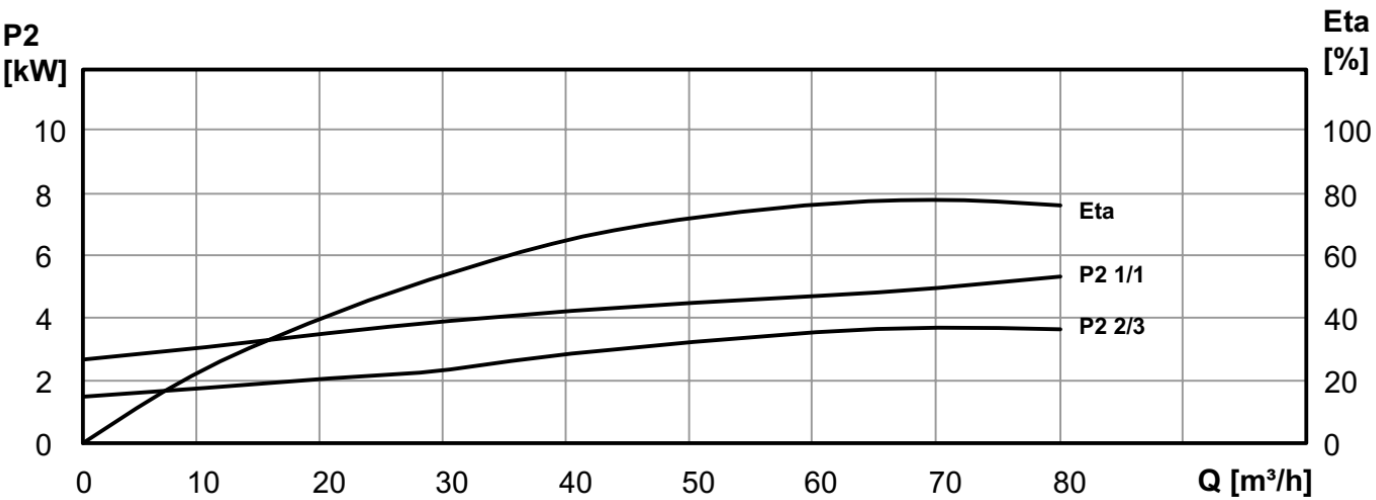
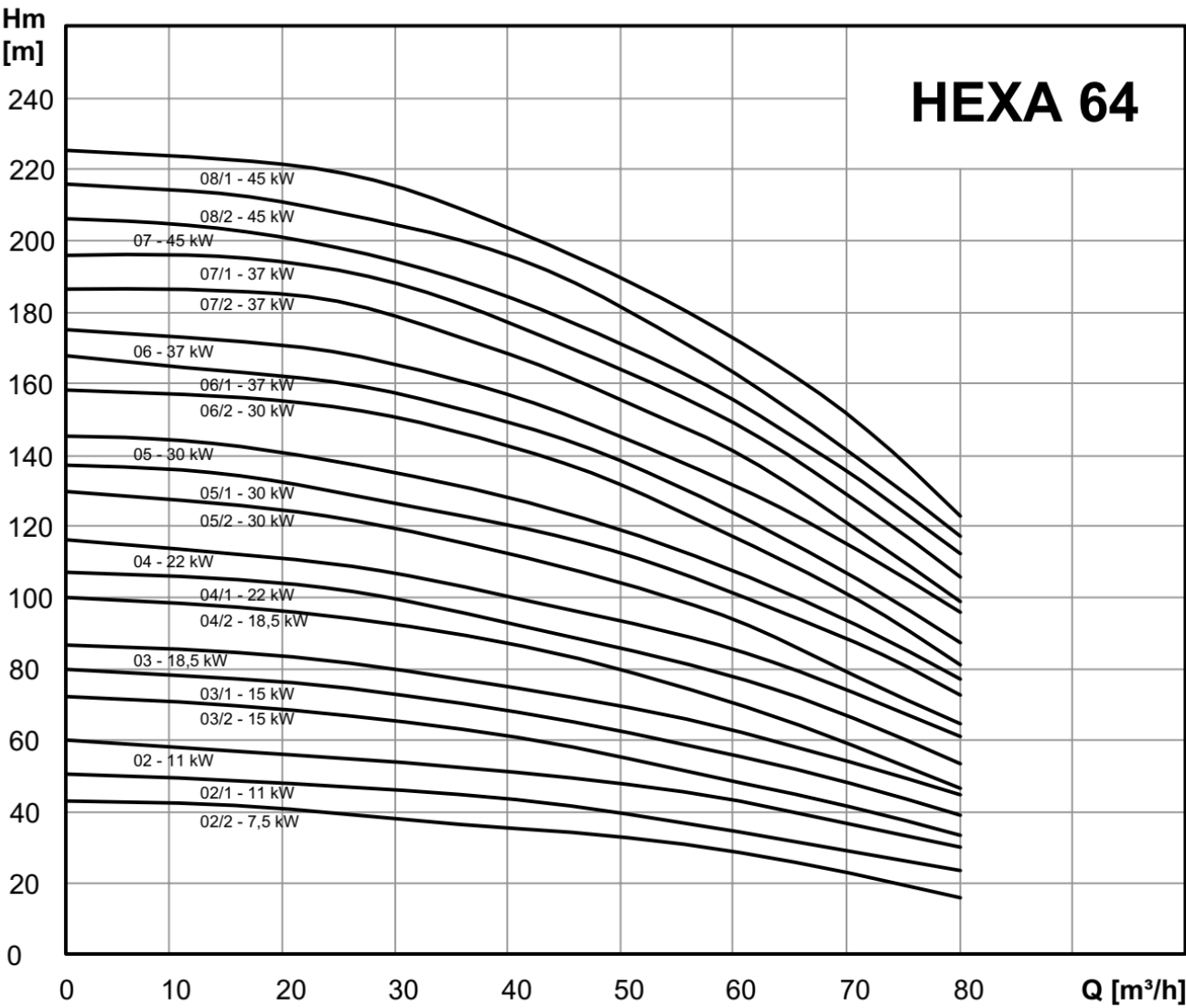
HEXA 32



Mas Grup







HEXA Series

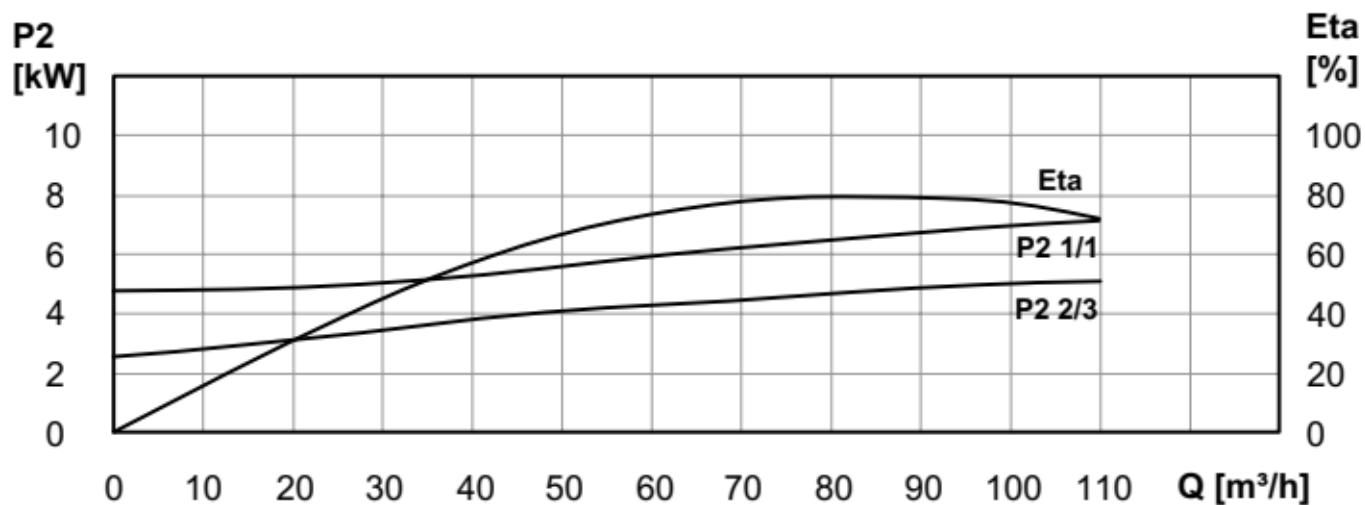
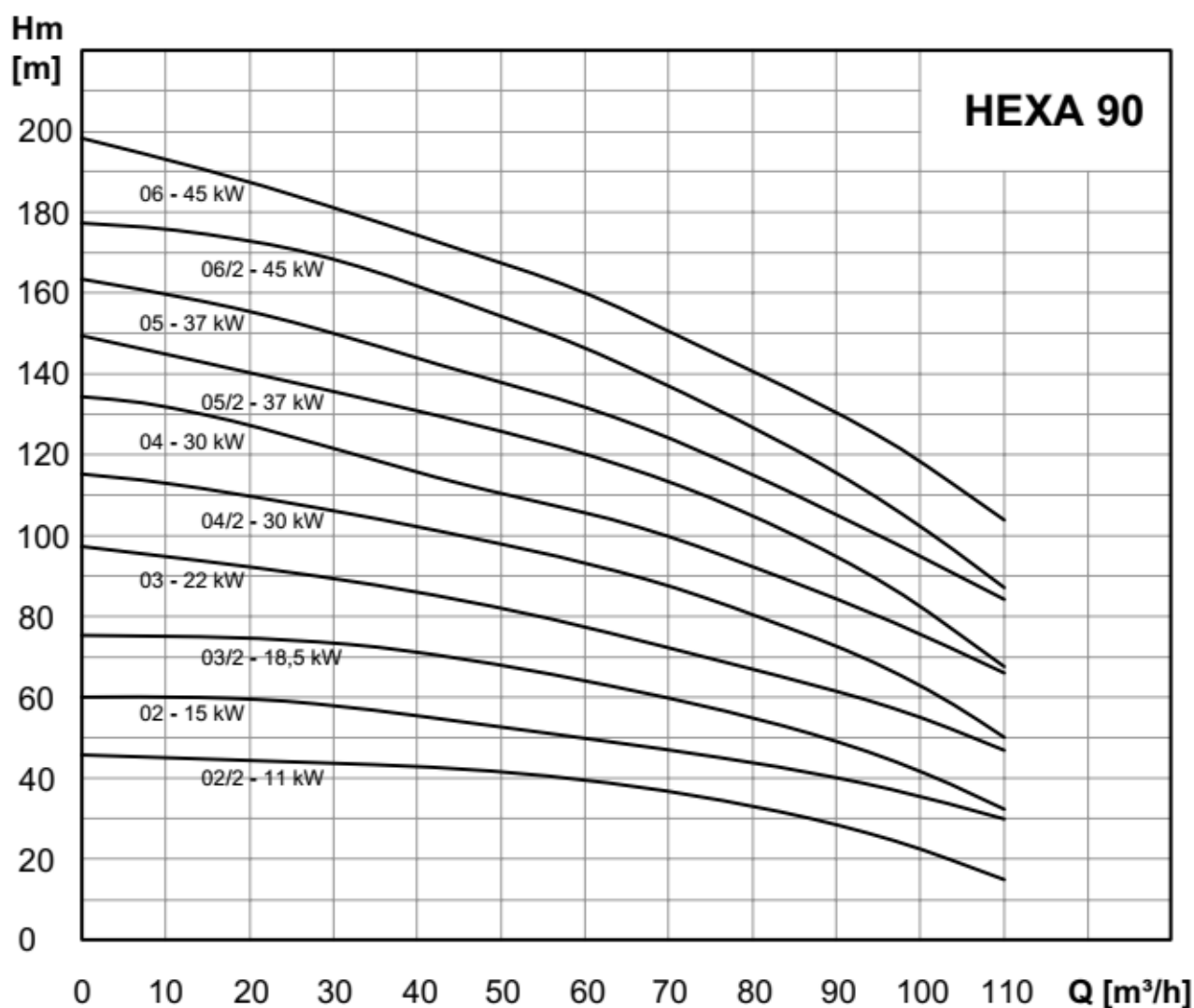
Vertical Stainless Steel Pumps

Performance Curves

HEXA 90



Mas Grup



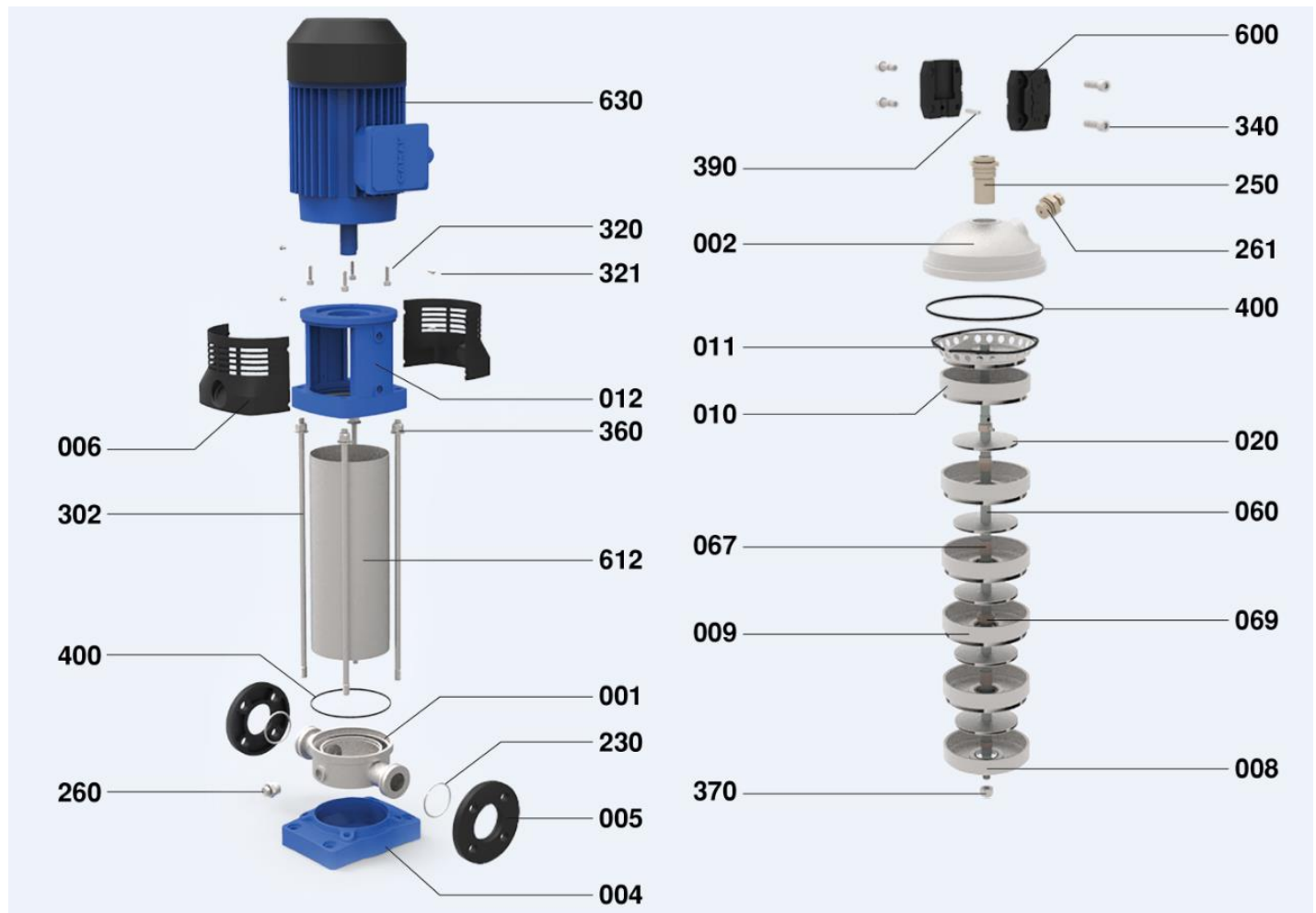
HEXA Series

Vertical Stainless Steel Pumps

Exploded View and Part List



Mas Grup



Part No	Part Name	Material	Part No	Part Name	Material
1	Suction / Discharge Casing	AISI 304 / CAST IRON	250	Mechanical Seal	SiC / SiC
2	Ball-Shaped Lining	AISI 304 / CAST IRON	260	Setting Valve	AISI 304
4	Base Plate	CAST IRON	261	Air Valve	AISI 304
5	Casing Flange	AISI 304 / AISI 316 / CAST IRON	302	Stud	GALVANIZED
6	Coupling Guard	ABS	320	Hexagonal Bolt	GALVANIZED
8	Inlet Fluid Director	AISI 304	321	Protection Bolt	GALVANIZED
9	Fluid Director with Bearings	AISI 304	340	Imbus Bolt	GALVANIZED
10	Fluid Director	AISI 304	360	Nut for Stud	GALVANIZED
11	Outlet Fluid Director	AISI 304	370	Fibered Nut	AISI 304
12	Adapter	CAST IRON	390	Coupling Pin	ST 42
20	Impeller	AISI 304	400	O-Ring	NBR
60	Shaft	AISI 304	400	O-Ring	NBR
67	Impeller Spacer Bushing	AISI 304	600	Coupling	CAST IRON
69	Spacer Bearing Bushing	WC(TUNGSTEN)	612	Outside Cylinder (Shield)	AISI 304
230	Wave Spring	AISI 304	630	Motor	



Mas Grup

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