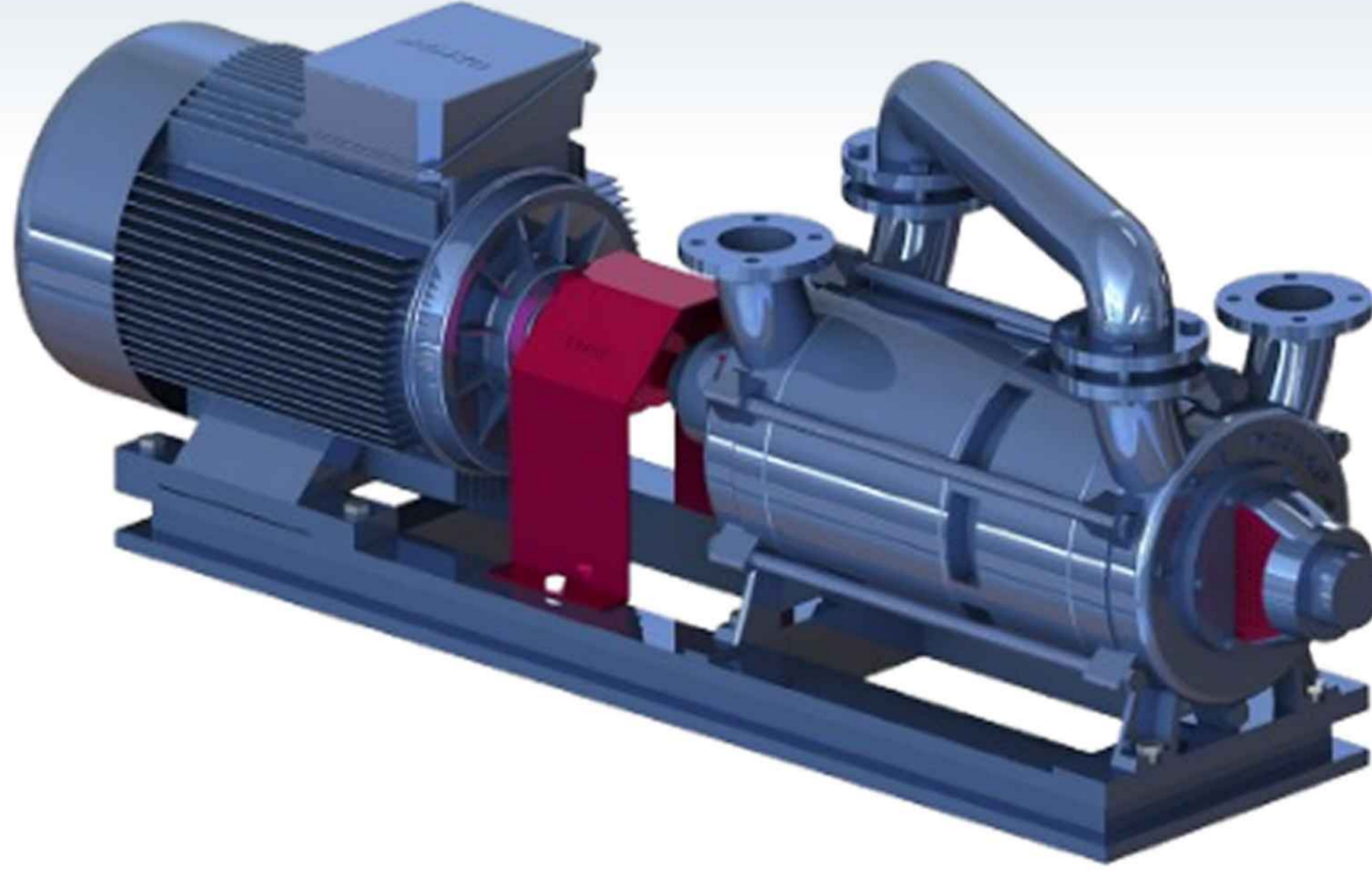




WATER RING VACUUM PUMPS - DOUBLE STAGE – ESV SERIES



WATER VACUUM PUMPS GENERAL AREAS OF USE

- PLASTIC INDUSTRY
- CHEMISTRY AND PHARMACEUTICAL INDUSTRY
- CLEANING INDUSTRY
- FOOD INDUSTRY
- CRAMITE AND BRICK INDUSTRY
- TEXTILE INDUSTRY
- GLASS CERAMIC PORCELAIN INDUSTRY
- HEALTH SECTOR
- PAPER INDUSTRY
- STEEL MANUFACTURING
- VACUUM HOLDING AND TRANSPORT
- FORESTRY INDUSTRY
- PETROCHEMICAL INDUSTRY

Pump Ratings	
Capacity	100-3500 m ³ /h
Pressure	Maximum 735 MMhg
Operating Temperature	0-20 C
Engine Power	5,5 kw – 90 kw
Input and Output Dimensions	DN50 – DN 150

Water Ring Vacuum Pumps

Water ring vacuum pumps offer an effective method of providing suction of gas or air. Its working principle is based on the movement of the water ring around a rotating shaft. Here are some important points of this system:

1. Working Principle

Inside the cylindrical body of the pump, there are fans on the shaft located off-axis. The inside of the cylinder is partially filled with water. While the water ring ensures the absorption of gas, the step plates regulating the suction and outlet openings also play an important role.

2. Suction Pressure Limit

The lowest suction pressure of the pump occurs when it is equal to the vapor pressure of the service water. At this point, the suction ability of the pump decreases to zero and therefore it should not be operated at this pressure for a long time. Otherwise, the water will begin to evaporate and the vapor phase may condense on the pressure side of the pump, causing problems.

3. Cavitation Problem

Sudden pressure changes cause deterioration on fans and step plates. This phenomenon is called cavitation, and these effects limit the effectiveness of water ring vacuum pumps at low pressures.

4. Sea Level and Suction Ability

- The value of the suction pressure is directly related to the altitude above sea level where it operates. As atmospheric pressure decreases, the suction ability of the pump does not change, but the measured vacuum pressure value may appear low.


SELECTION TABLE - DOUBLE STAGE VACUUM PUMP

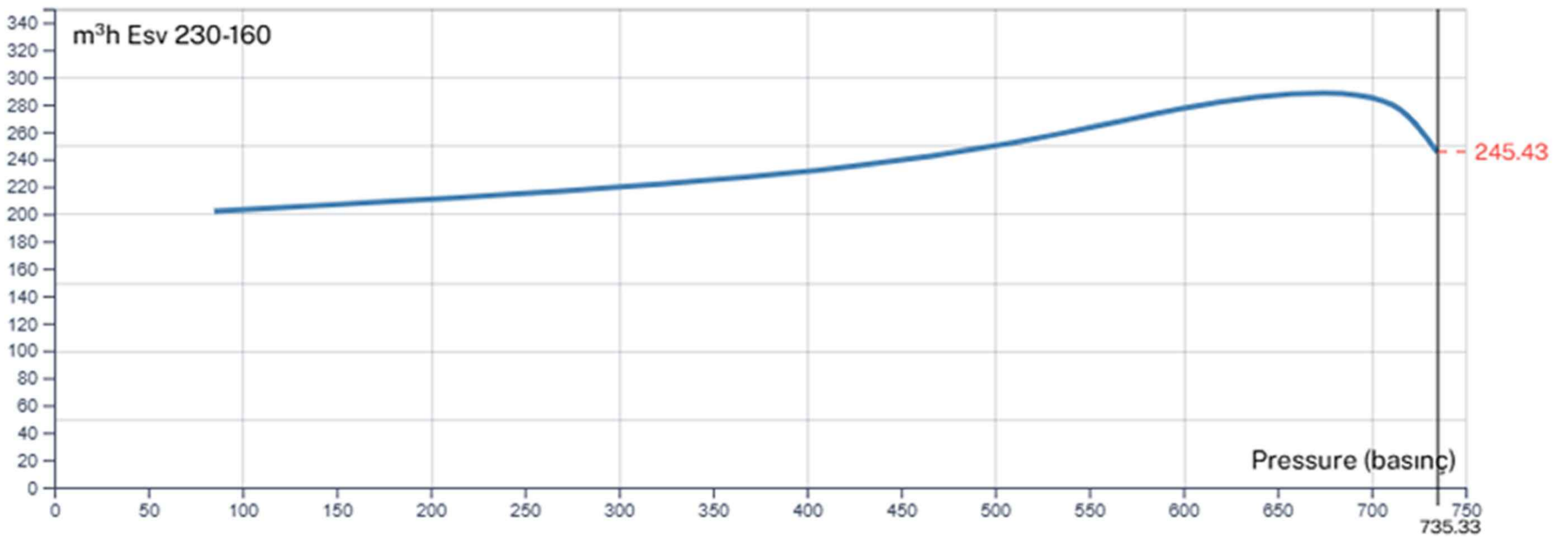
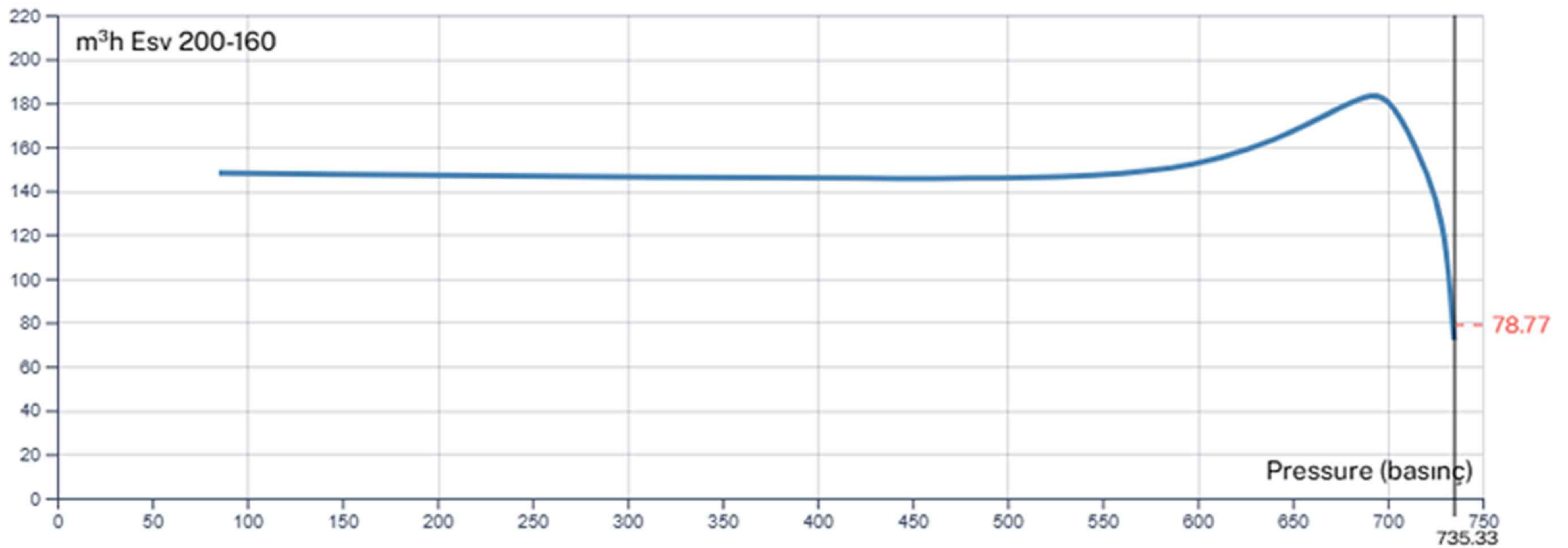
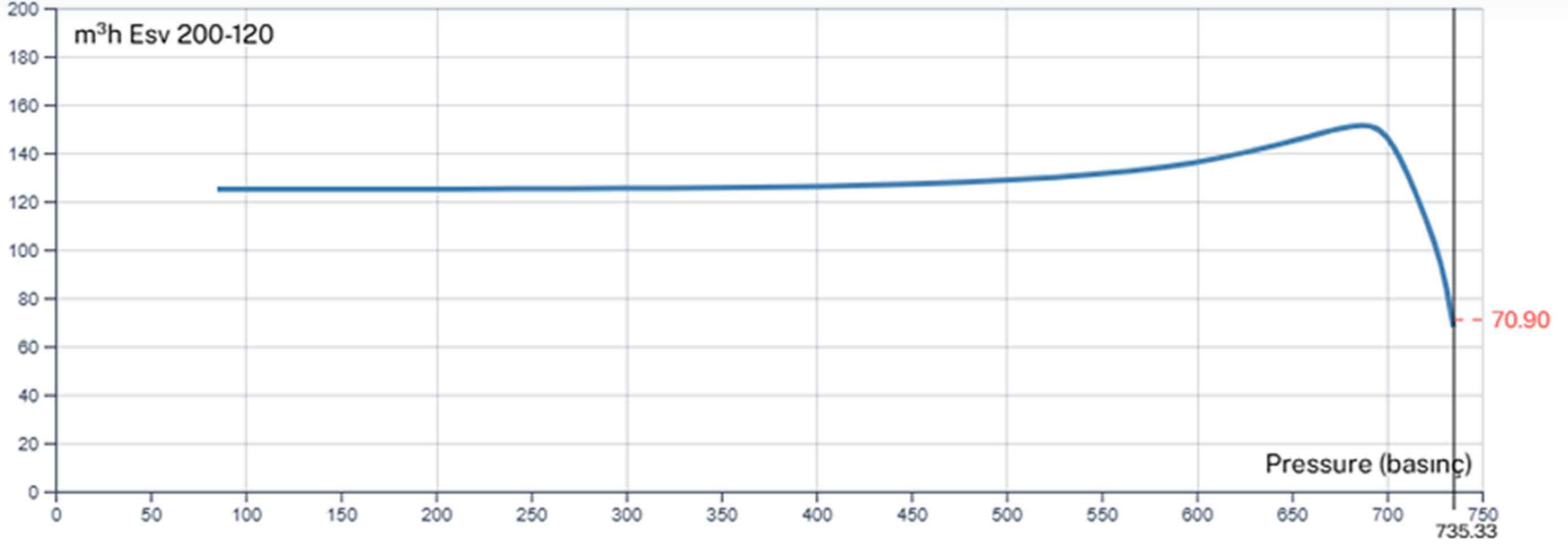
SELECTION TABLE

MODEL/TYPE	Giriş/ Çıkış- Inlet/ Outlet	Mutlak	mbar	900	400	200	100	80	60	40	33	Servis Suyu(l/ dak)- Ser-vice Wa- ter(l/m)
		Basınç/ Absolute Pressure	torr	675	300	150	75	60	45	30	25	
		Vakum/ Vacuum	mSS	9.2	4.1	2	1	0.8	0.6	0.41	0.34	
			kPa	90	40	20	10	8	6	4	3.33	
		Motor	Devir/Speed	Emme Kapasitesi /Capacity (m ³ /h)								
			(kW)	(d/d)/rpm								
ÇİFT KADEMELİ VAKUM POMPALARI / TWO STAGE VACUUM PUMPS												
ESV 185/40	DN 40	3	1450	55	55	58	52	48	45	35	21	10
ESV 185/80	DN 40	4	1450	105	105	109	106	105	85	75	32	12.5
ESV 200/120	DN 40	5.5	1450	125	125	134	154	150	125	93	68	12.5
ESV 200/160	DN 40	7.5	1450	148	145	146	184	185	160	130	72	15
ESV 230/120	DN 50	11	1450	180	215	230	245	250	290	225	220	32
ESV 230/160	DN 50	11	1450	202	250	285	290	285	280	255	245	36
ESV 230/200	DN 50	15	1450	227	280	315	320	310	305	285	275	41
ESV 230/220	DN 50	15	1450	265	320	348	365	355	345	335	330	44
ESV 250/160	DN 65	15	1450	325	358	392	398	394	385	375	355	41
ESV 250/200	DN 65	18.5	1450	366	425	510	505	495	470	435	385	46
ESV 250/240	DN 65	22	1450	395	415	486	560	556	551	506	475	49
ESV 275/160	DN80	18.5	1450	435	448	525	585	585	530	520	500	58
ESV 275/200	DN80	22	1450	480	475	525	580	580	580	545	530	64
ESV 275/220	DN80	22	1450	515	558	595	674	670	645	585	555	72
ESV 275/240	DN80	30	1450	540	560	630	690	710	680	600	535	72
ESV 275/260	DN80	30	1450	650	565	695	790	755	730	680	600	75
ESV 380/300	DN100	37	1450	1350	1300	1320	1400	1425	1380	1150	980	85
ESV 380/350	DN100	45	1450	1450	1400	1420	1480	1465	1400	1345	1250	88
ESV 520/300	DN100	55	1450	1720	1800	1890	2000	1855	1750	1628	1500	95



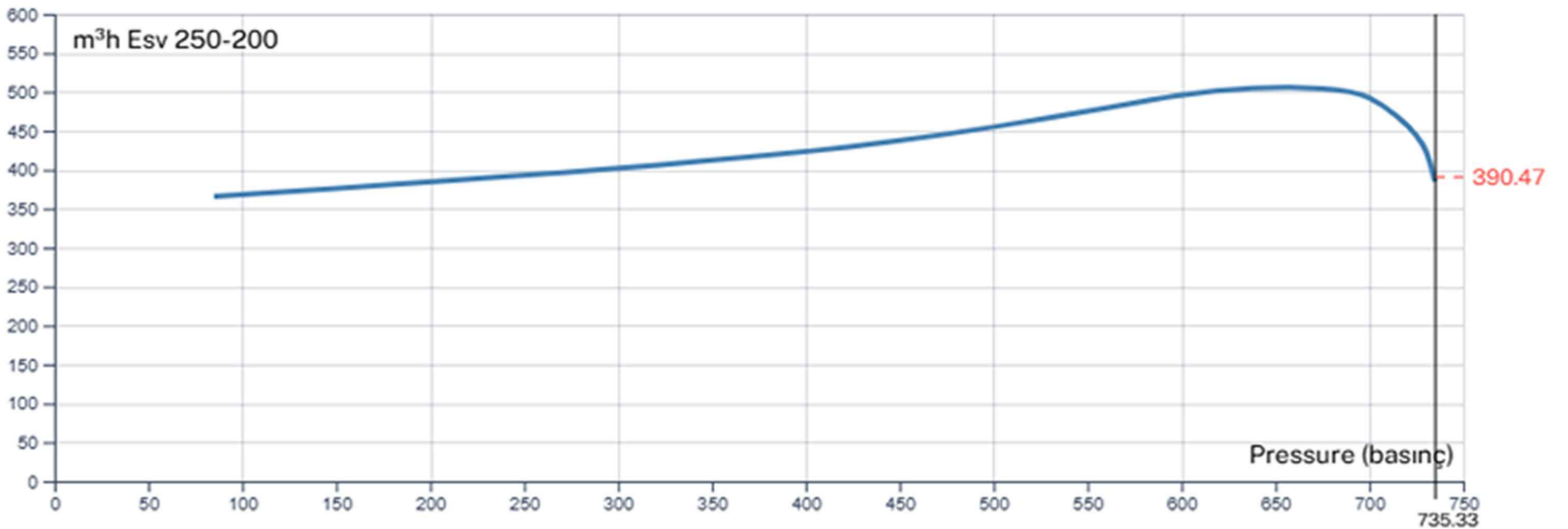
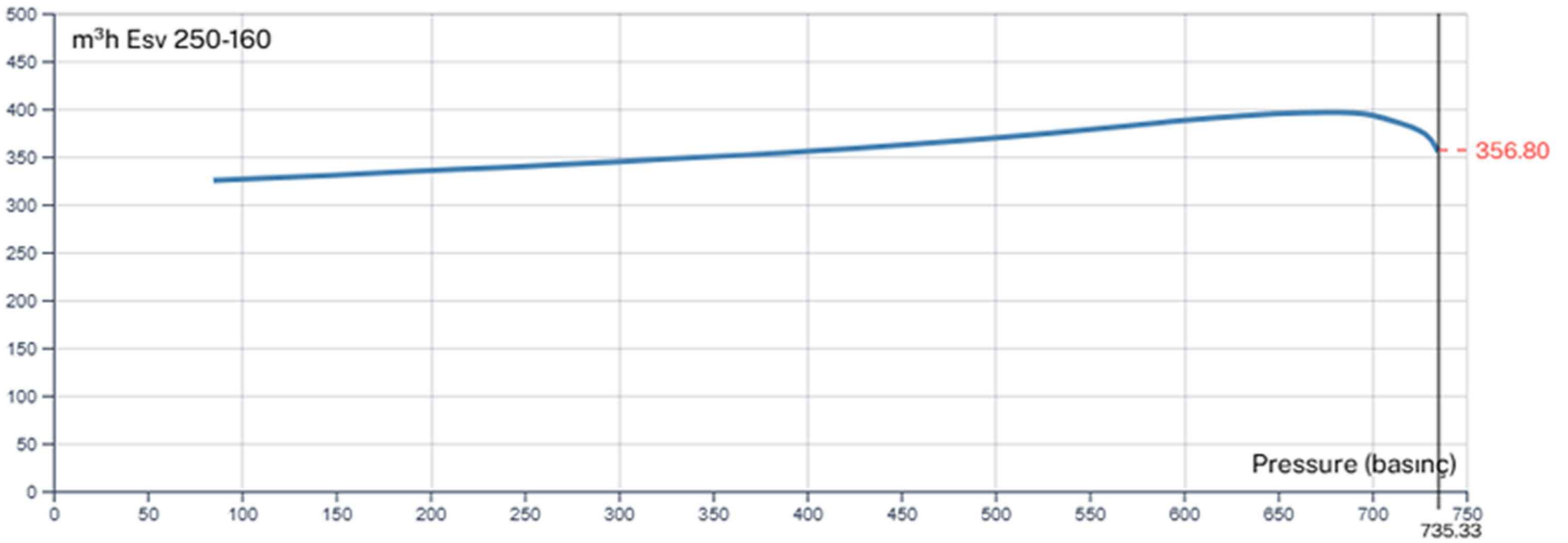
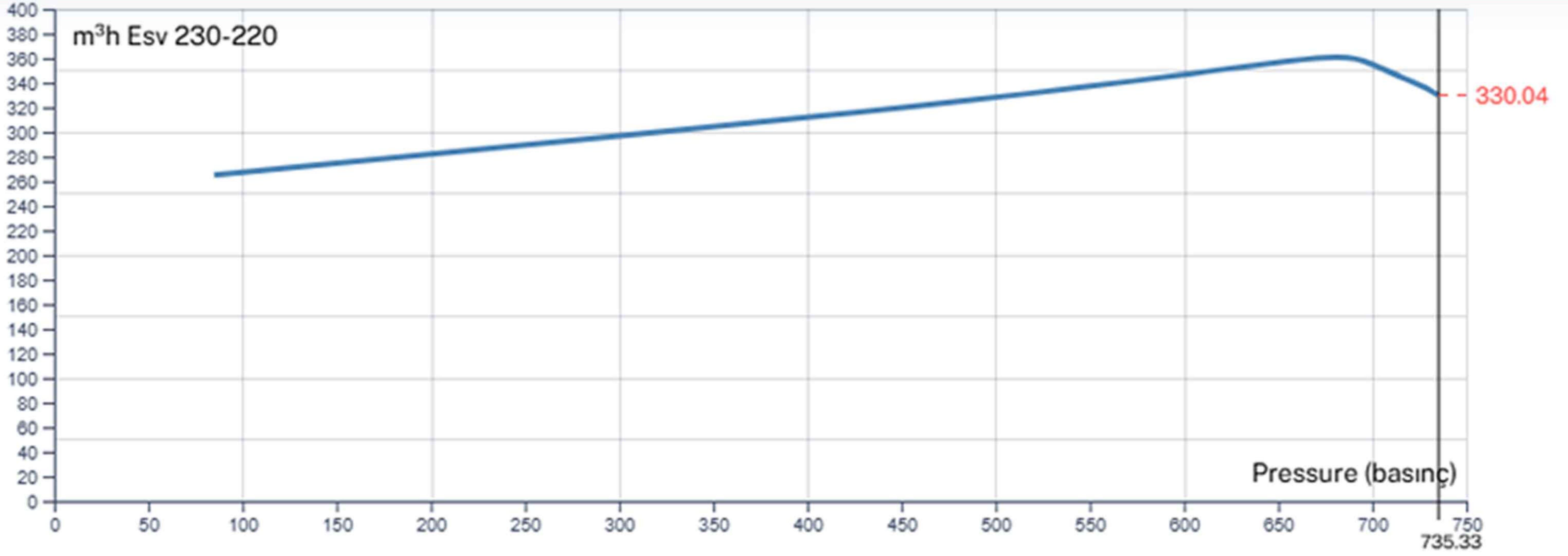
QR CODE

CURVE - DOUBLE STAGE VACUUM PUMP



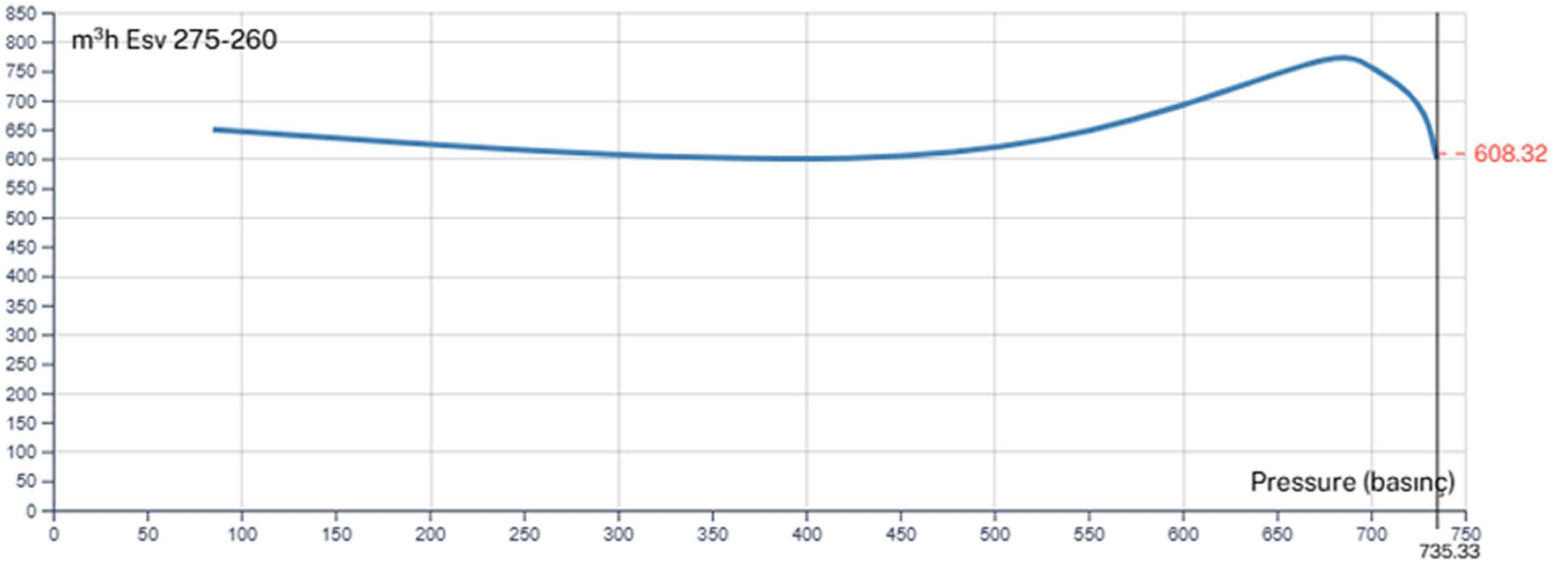
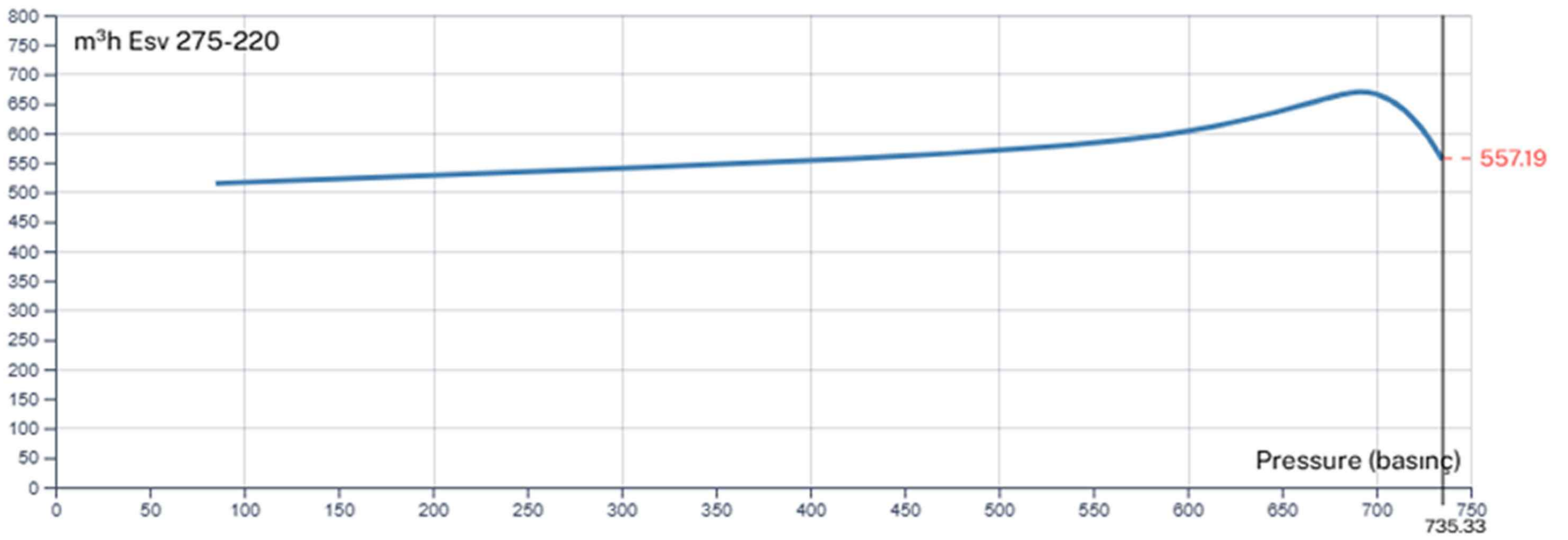
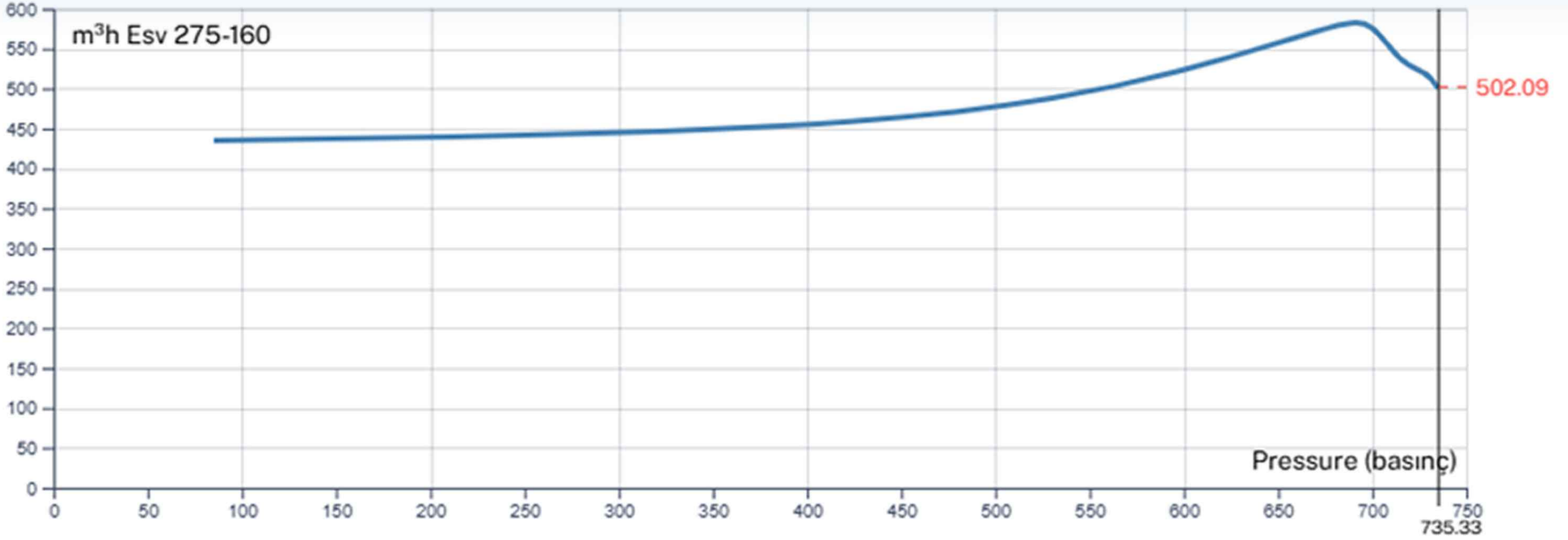


CURVE - DOUBLE STAGE VACUUM PUMP



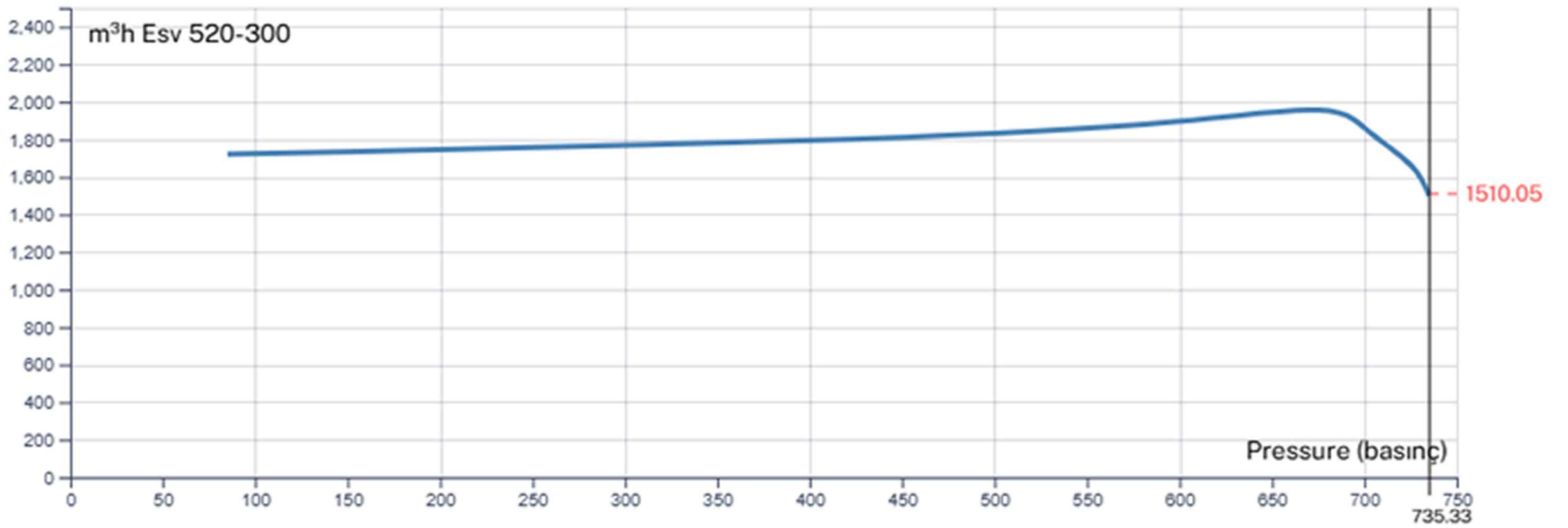
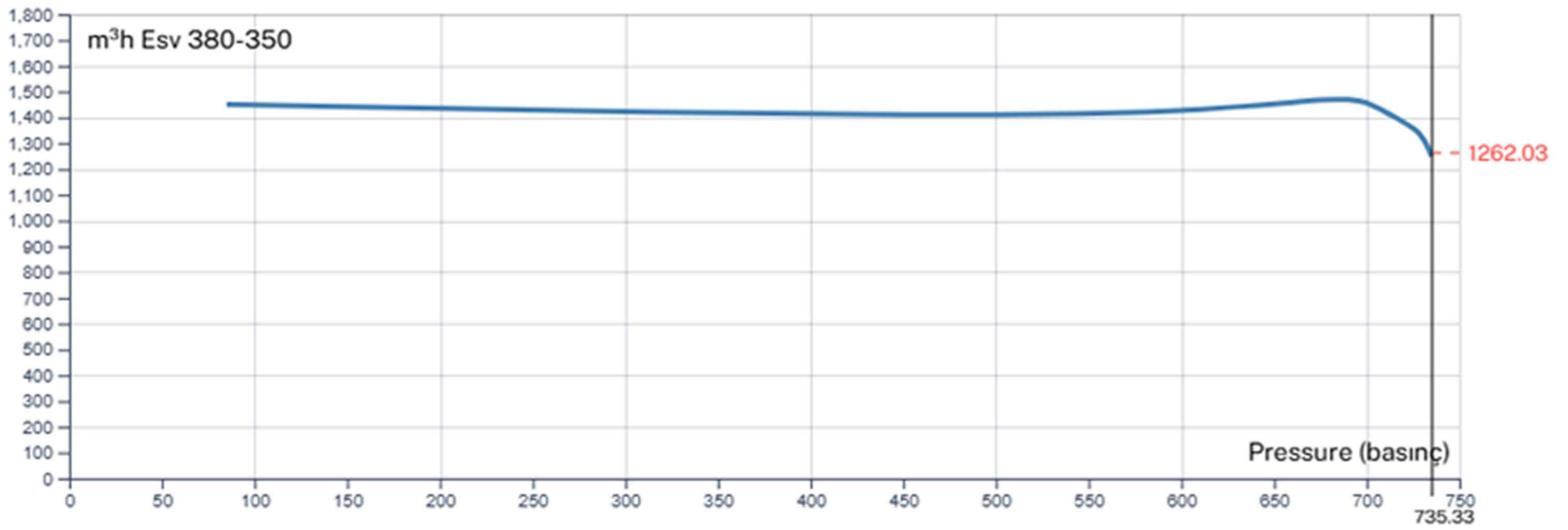
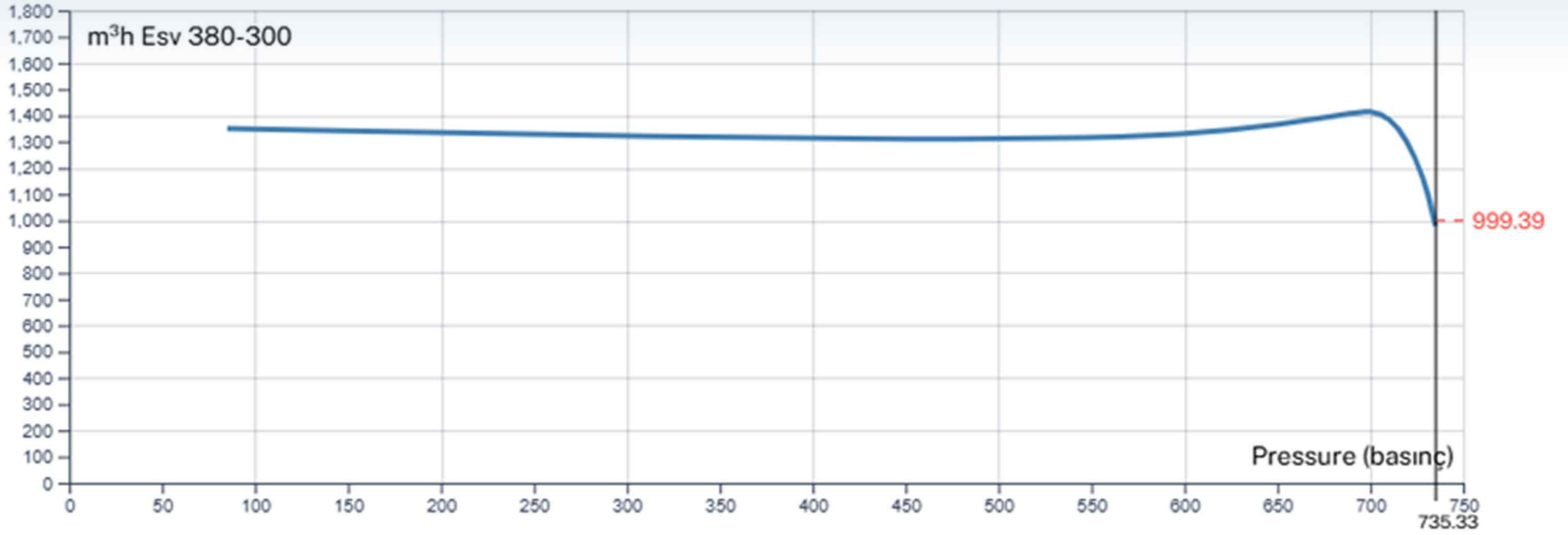


CURVE - DOUBLE STAGE VACUUM PUMP



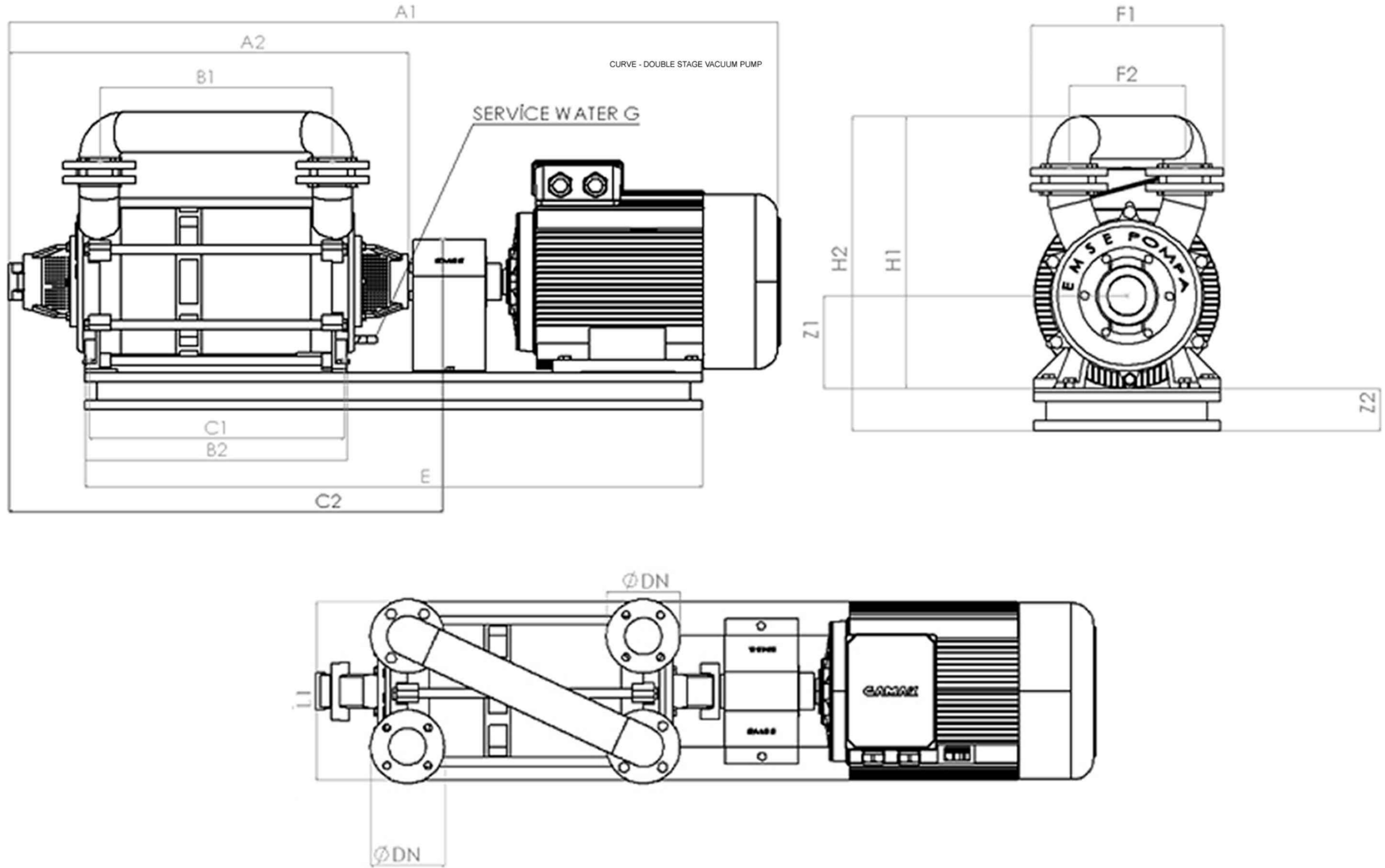


CURVE - DOUBLE STAGE VACUUM PUMP





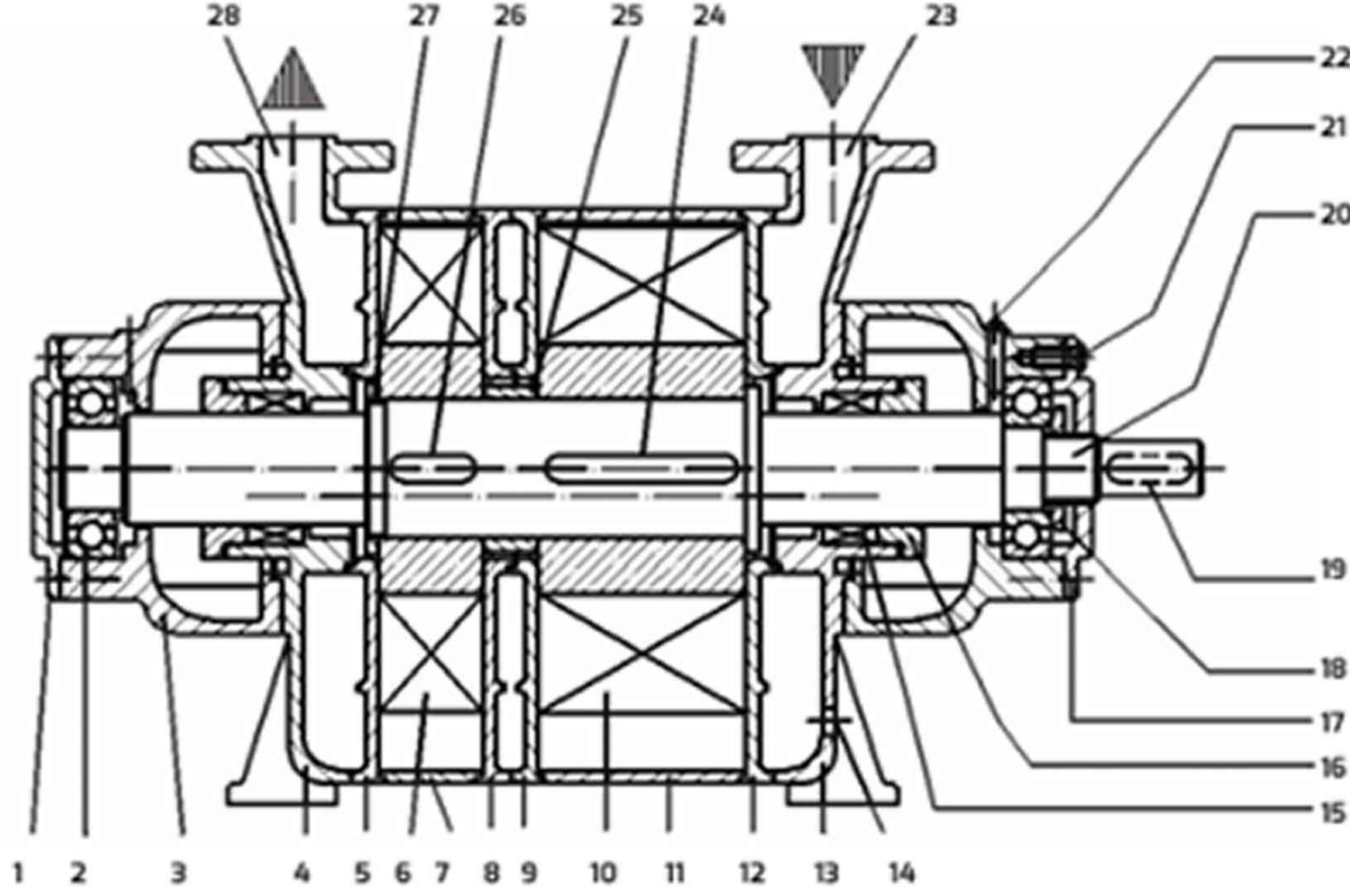
CURVE - DOUBLE STAGE VACUUM PUMP



Model	DN	DN	A1	A2	B1	B2	C1	C2	E	F1	F2	H1	H2	Z1	L1	G	KG
ESV 200/120	40	40	1045	470	292	382	352	605	850	305	182	600	500	290	340	G1/2	132
ESV 200/160	40	40	1145	510	348	378	408	677	945	305	182	600	500	290	340	G1/2	170
ESV 230/120	50	50	1230	512	335	450	405	715	980	375	208	600	500	310	375	G1/2	235
ESV 230/160	50	50	1400	582	395	510	465	775	1130	375	208	600	500	310	375	G1/2	305
ESV 230/200	50	50	1515	615	435	550	505	785	1200	390	235	600	520	310	375	G1/2	320
ESV 230/220	50	50	1515	650	455	560	510	845	1250	380	200	400	555	220	368	G1/2	360
ESV 250/160	65	65	1495	602	478	590	545	782	1250	428	245	600	700	220	400	G1"	365
ESV 250/200	65	65	1550	660	520	630	590	839	1300	428	245	600	700	220	400	G1"	410
ESV 250/240	65	65	1600	682	550	670	630	870	1350	428	245	600	700	220	400	G1"	430
ESV 275/160	80	80	1600	682	440	520	560	870	1300	410	235	610	710	240	450	G1"	425
ESV 275/200	80	80	1600	700	480	570	600	940	1400	410	235	610	710	240	450	G1"	465
ESV 275/220	80	80	1650	710	500	580	620	940	1400	410	235	610	710	240	450	G1"	478
ESV 275/260	80	80	1800	755	540	670	620	970	1480	420	240	620	720	250	450	G1"	565
ESV 380/300	100	100	2150	1150	690	750	820	1220	1830	600	380	830	930	300	490	1½"	920
ESV 380/350	100	100	2200	1200	720	800	875	1355	1950	600	380	830	930	300	490	1½"	1050
ESV 520/300	100	100	2820	1780	820	1100	940	1920	2680	700	400	1100	1300	350	630	1½"	1420



EXPLODED DRAWING - DOUBLE STAGE VACUUM PUMP



KADEMELİ POMPA / DOUBLE STAGE PUMP

- 1- Arka Rulma Kapağı / Back Bearing Cover
- 2- Rulman / Bearing
- 3- Rulman Yatağı / Bearing House
- 4- Pompa Arka Kapak / Pump Back Cover
- 5- Arka Plaka / Back Plate
- 6- Kısa Fan / Shorter Impeller
- 7- Kısa Gövde Çemberi / Shorter Body Round
- 8- Ara Kademe Plakası / Middle Plate
- 9- Ara Kademe Plakası / Middle Plate
- 10- Fan / Impeller
- 11- Uzun Gövde Çemberi / Wider Body Round
- 12- Ön Plaka / Front Cover
- 13- Pompa Ön Kapak / Pump Front Cover
- 14- Pompa Su Girişi / Pump Water Inlet
- 15- Salmastra / Seal
- 16- Glen / Gland
- 17- Ön Rulman Kapağı / Front Bearing Cover
- 18- Rulman Sabitleme Somunu / Bearing Tightening Nut
- 19- Kama / Key
- 20- Mil / Shaft
- 21- Civatalar / Bolts
- 22- Gresörlük / Nipple
- 23- Giriş / Inlet
- 24- Kama / Key
- 25- Burç / Sleeve
- 26- Kama / Key
- 27- Fan Sabitleme Somunu / Bearing Tightening Nut
- 28- Çıkış / Outlet

PARTS LIST	cast iron	ductile iron	Alsi 420	Alsi 304	Alsi 316	316 TI	Dublex ss	bronze	St37
Large impeller		✓	✓	✓	✓	✓	✓	✓	
Narrow impeller		✓	✓	✓	✓	✓	✓	✓	
Large ring			✓	✓	✓				✓
Narrow ring			✓	✓	✓				✓
Front stage plate	✓	✓	✓	✓	✓				
Back stage plate	✓	✓	✓	✓	✓				
Midrange plate	✓	✓	✓	✓	✓				
Shaft			✓	✓	✓				
Bearing cover	✓	✓	✓	✓	✓	✓	✓		
Front foot	✓	✓	✓	✓	✓	✓	✓		
Back foot	✓	✓	✓	✓	✓	✓	✓		
Water return pipe									✓
Impeller nut			✓	✓					
Bearing nut			✓	✓					
Bush			✓	✓					
Impeller wedge			✓	✓					
Coupling wedge			✓	✓					
Mechanical seal	Silicon (silicium) + carbon								
Gasket	Klingrite paper gasket								