Etaline®

In-line Pumps

Automation products available:

- Hyamaster
- hyatronic

Fields of Application

- Heating systems
- Air-conditioning systems
- Cooling circuits
- Service water supply systems
- Water supply systems
- Industrial recirculation systems

Fluid Pumped

Liquids not chemically or mechanically aggressive to the pump materials (see list of fluids pumped on page 6).

Operating Data

Q up to 550 m^3/h, 153 l/s
H up to 90 m
t –30 ˚C to +140 ˚C
p_d up to 16 bar [1])

[1]) The sum of inlet pressure and shutoff head must not exceed the value indicated

Designation

Etaline G N 65 - 160 / 40 2 . 2

Type series
Material combination
N = with stub shaft and standardised motor
Pump size
Nom. dia. suction/discharge nozzle
Approx. impeller diameter
Motor rating in kW x 10 (example: 4.0 kW)
Number of poles
Code for turned-down impeller

Design

Close-coupled in-line pump, with standardised motor. The pump shaft is rigidly connected to the motor shaft.
2 Etaline pumps connected by two Y-pipes constitute a twin pump.

Shaft Seal

Uncooled mechanical seal, for ex. silicon carbide/silicon carbide, special elastomers or EP rubber.
Other variants as indicated in the list of media pumped.

Materials

	Etaline GN	**Etaline MN**
Volute casing	Cast iron JL1040 [2])	Cast iron JL1040 [2])
Discharge cover	Cast iron JL1040 [2])	Cast iron JL1040 [2])
Impeller	Cast iron JL1040 [2])	Tin bronze
Casing wear rings	Cast iron JL1040 [2])	Bronze
Shaft	Tempered steel C 45	Tempered steel C 45
Shaft sleeve	Chrome nickel molybdenum steel 1.4571	Chrome nickel molybdenum steel 1.4571
Drive lantern	Cast iron JL1040 [2])	Cast iron JL1040 [2])
Y-pipes	Cast iron JL1040 [2])	–

[2]) to EN 1561 GJL-250 (formerly GG-25)

Drive

Surface-cooled three-phase squirrel-cage motor, up to 2.2 kW 230/400 V, 3 kW and above 400/690 V, IP 55, insulation class F.

Units with integrated speed adjustment are described in the Etaline Pump-Drive Type Series Booklet 1149.52-10.

Bearings

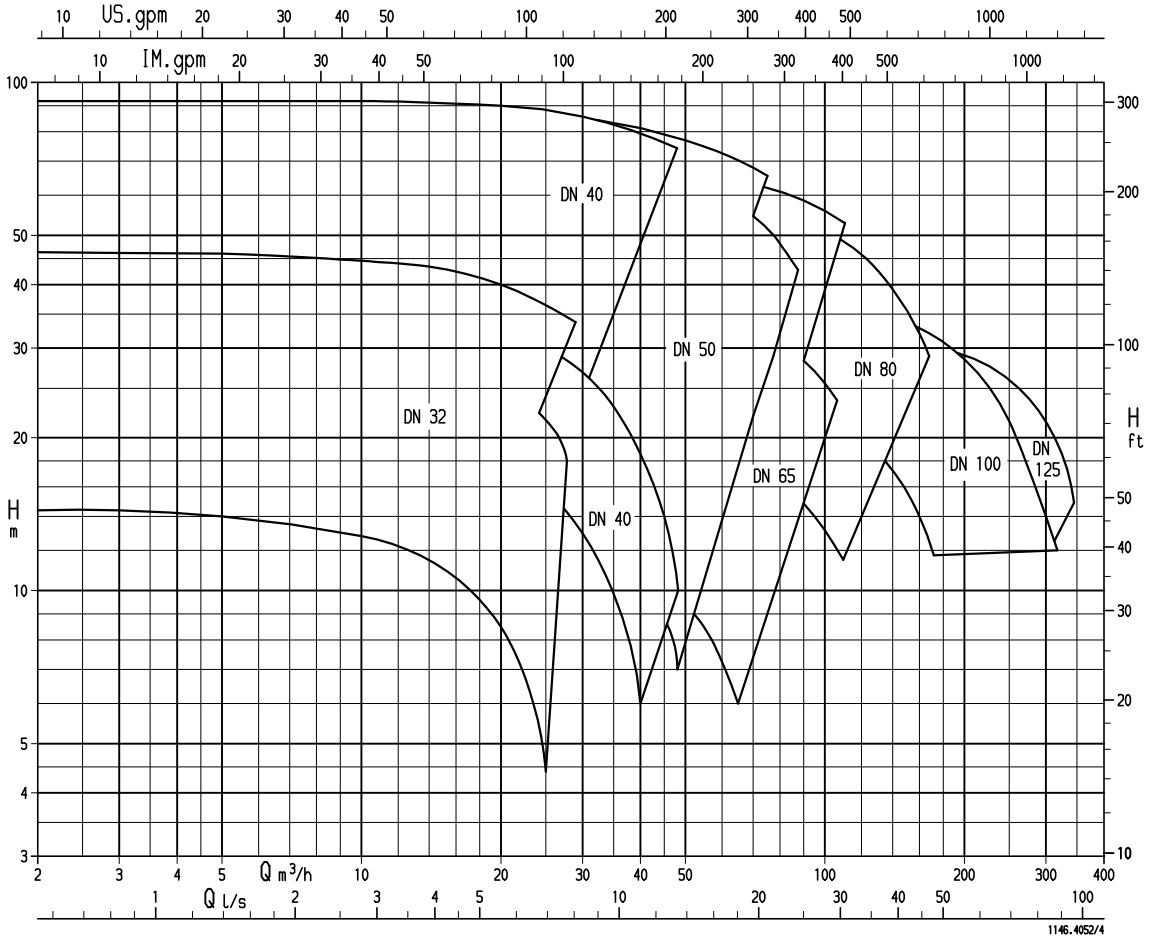
Grease-lubricated deep-groove ball bearings.

KSB

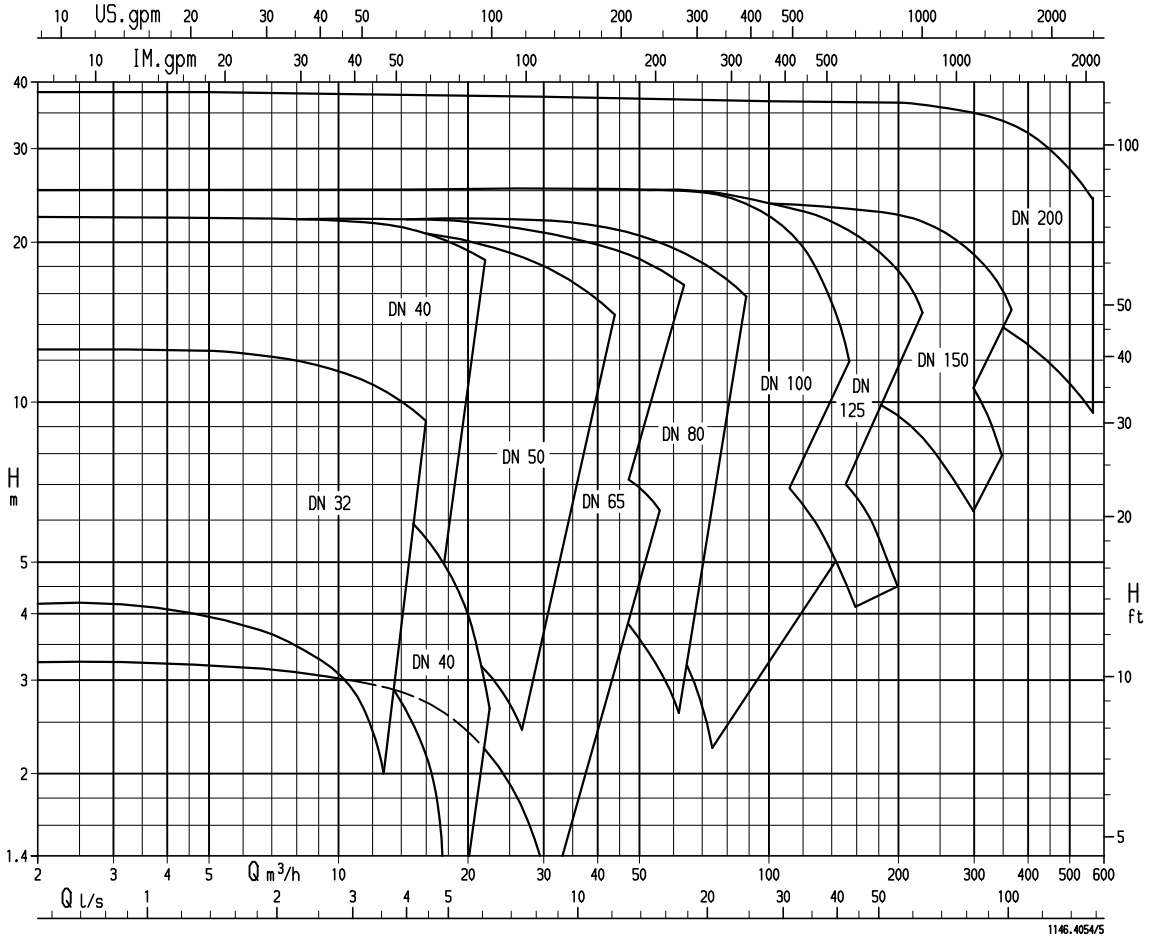
Product Information as per Regulation No. 547/2012 (for Water Pumps with a Maximum Shaft Power of 150 kW) Implementing ”Ecodesign” Directive 2009/125/EC

- Minimum efficiency index: see data sheet
- The benchmark for most efficient water pumps is MEI ≥ 0.70.
- Year of construction: see data sheet
- Manufacturer’s name or trade mark, commercial registration number and place of manufacture: see data sheet or order documentation
- Product’s type and size identificator: see data sheet
- Hydraulic pump efficiency (%) with trimmed impeller: see data sheet
- Pump performance curves, including efficiency characteristics: see documented characteristic curve
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.
- Information relevant for disassembly, recycling or disposal at end of life: see installation/ operating manual
- Information on benchmark efficiency or benchmark efficiency graph for MEI = 0.7 (0.4) for the pump based on the model shown in the Figure are available at: http://www.europump.org/efficiencycharts

n ≈ 2900 rpm



n ≈ 1450 rpm



n ≈ 2900 rpm

Etaline	Motor			Single pumps
	Size	kW	400 V A	kg
32-160/112.2	80	1.1	2.4	37
32-160/112.1	80	1.1	2.4	37
32-160/152.2	90 S	1.5	3.3	40
32-160/152.1	90 S	1.5	3.3	40
32-160/222.2	90 L	2.2	4.6	43
32-160/222.1	90 L	2.2	4.6	43
32-160/302	100 L	3	6.1	50
32-200/402	112 M	4	7.8	69
32-200/552.2	132 S	5.5	10.4	79
32-200/552.1	132 S	5.5	10.4	79
32-200/752	132 S	7.5	13.8	92
40-160/222	90 L	2.2	4.6	44
40-160/302.2	100 L	3	6.1	51
40-160/302.1	100 L	3	6.1	51
40-160/402	112 M	4	7.8	62
40-250/402	112 M	4	7.8	78
40-250/552.2	132 S	5.5	10.4	88
40-250/552.1	132 S	5.5	10.4	88
40-250/752.2	132 S	7.5	13.8	101
40-250/752.1	132 S	7.5	13.8	101
40-250/1102.2	160 M	11	20.0	124
40-250/1102.1	160 M	11	20.0	124
40-250/1502.2	160 M	15	26.5	133
40-250/1502.1	160 M	15	26.5	133
40-250/1852	160 L	18.5	32.0	153
50-160/152	90 S	1.5	3.3	43
50-160/222	90 L	2.2	4.6	47
50-160/302	100 L	3	6.1	54
50-160/402.2	112 M	4	7.8	65
50-160/402.1	112 M	4	7.8	65
50-160/552	132 S	5.5	10.4	75
50-160/752	132 S	7.5	13.8	88
50-250/752	132 S	7.5	13.8	105
50-250/1102.2	160 M	11	20.0	127
50-250/1102.1	160 M	11	20.0	127
50-250/1502	160 M	15	26.5	136
50-250/1852.2	160 L	18.5	32.0	156
50-250/1852.1	160 L	18.5	32.0	156
50-250/2202	180 M	22	40.5	185
65-160/222.2	90 L	2.2	4.6	49
65-160/222.1	90 L	2.2	4.6	49
65-160/302.2	100 L	3	6.1	56
65-160/302.1	100 L	3	6.1	56
65-160/402.2	112 M	4	7.8	67
65-160/402.1	112 M	4	7.8	67
65-160/552.2	132 S	5.5	10.4	78
65-160/552.1	132 S	5.5	10.4	78
65-160/752.2	132 S	7.5	13.8	91
65-160/752.1	132 S	7.5	13.8	91
65-160/1102	160 M	11	20.0	113
65-250/752	132 S	7.5	13.8	109
65-250/1102.2	160 M	11	20.0	132
65-250/1102.1	160 M	11	20.0	132
65-250/1502.2	160 M	15	26.5	141
65-250/1502.1	160 M	15	26.5	141
65-250/1852.2	160 L	18.5	32.0	161
65-250/1852.1	160 L	18.5	32.0	161
65-250/2202.2	180 M	22	40.5	189
65-250/2202.1	180 M	22	40.5	189
65-250/3002	200 L	30	54.0	249

Etaline	Motor			Single pumps
	Size	kW	400 V A	kg
80-160/402	112M	4	7.8	73
80-160/552.3	132S	5.5	10.4	84
80-160/552.2	132S	5.5	10.4	84
80-160/552.1	132S	5.5	10.4	84
80-160/752.2	132S	7.5	13.8	97
80-160/752.1	132S	7.5	13.8	97
80-160/1102.2	160M	11	20.0	119
80-160/1102.1	160M	11	20.0	119
80-160/1502	160M	15	26.5	128
80-210/1852	160L	18.5	32.0	160
80-210/2202	180M	22	40.5	188
80-210/3002	200L	30	54.0	249
80-210/3702	200L	37	65.0	278
100-125/402	112M	4	7.8	81
100-125/552	132S	5.5	10.4	92
100-125/752.2	132S	7.5	13.8	105
100-125/752.1	132S	7.5	13.8	105
100-125/1102	160M	11	20.0	127
100-160/1102.2	160M	11	20.0	125
100-160/1102.1	160M	11	20.0	125
100-160/1502	160M	15	26.5	134
100-170/2202	180M	22	40.5	194
125-160/2202	180M	22	40.5	259
125-200/3002	200L	30	54.0	317
125-200/3702	200L	37	65.0	346
125-200/4502	225M	45	79.0	466

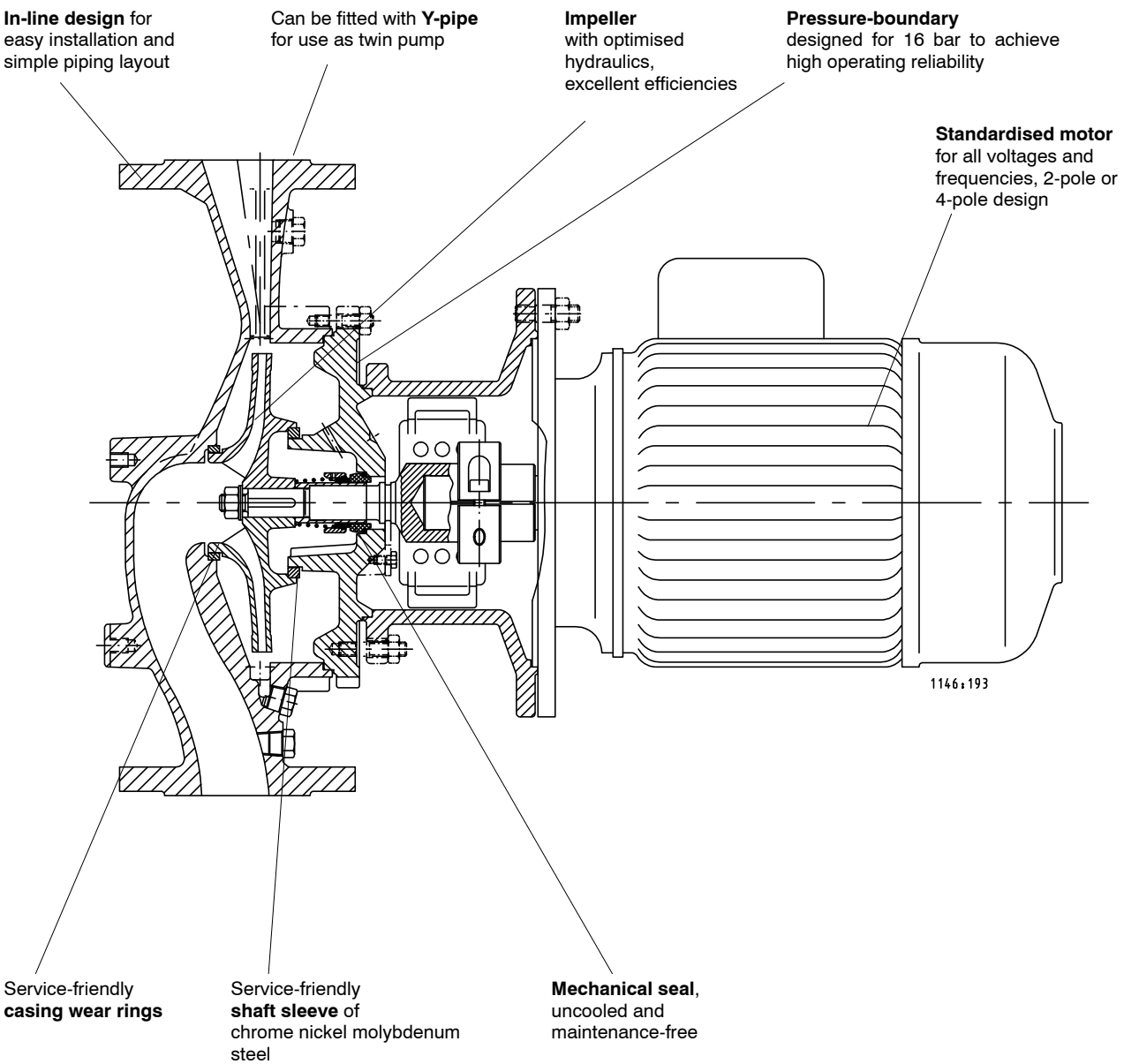
n ≈ 1450 rpm

Etaline	Motor			Single pumps	Twin pumps [1]
	Size	kW	400 V A	kg	kg
32-160/024.2	71	0.25	0.8	28	–
32-160/024.1	71	0.25	0.8	28	–
32-160/034.2	71	0.37	1.1	29	–
32-160/034.1	71	0.37	1.1	29	–
32-160/054	80	0.55	1.4	33	–
32-200/054	80	0.55	1.4	40	–
32-200/074.2	80	0.75	1.9	41	–
32-200/074.1	80	0.75	1.9	41	–
32-200/114	90 S	1.1	2.6	47	–
40-160/024	71	0.25	0.8	30	84
40-160/034	71	0.37	1.1	31	86
40-160/054	80	0.55	1.4	34	93
40-250/054	80	0.55	1.4	49	–
40-250/074.2	80	0.75	1.9	50	–
40-250/074.1	80	0.75	1.9	50	–
40-250/114	90 S	1.1	2.6	56	–
40-250/154.2	90 L	1.5	3.4	59	–
40-250/154.1	90 L	1.5	3.4	59	–
40-250/224.2	100 L	2.2	4.7	68	–
40-250/224.1	100 L	2.2	4.7	68	–
50-160/034.2	71	0.37	1.1	33	98
50-160/034.1	71	0.37	1.1	33	98
50-160/054.2	80	0.55	1.4	36	104
50-160/054.1	80	0.55	1.4	36	104
50-160/074.2	80	0.75	1.9	37	107
50-160/074.1	80	0.75	1.9	37	107
50-160/114	90 S	1.1	2.6	43	118
50-250/114	90 S	1.1	2.6	60	–
50-250/154.2	90 L	1.5	3.4	63	–
50-250/154.1	90 L	1.5	3.4	63	–
50-250/224.2	100 L	2.2	4.7	71	–
50-250/224.1	100 L	2.2	4.7	71	–
50-250/304	100 L	3	6.4	76	–
65-160/024	71	0.25	0.8	34	107
65-160/034	71	0.37	1.1	35	110
65-160/054.2	80	0.55	1.4	39	116
65-160/054.1	80	0.55	1.4	39	116
65-160/074.3	80	0.75	1.9	40	119
65-160/074.2	80	0.75	1.9	40	119
65-160/074.1	80	0.75	1.9	40	119
65-160/114.2	90 S	1.1	2.6	46	130
65-160/114.1	90 S	1.1	2.6	46	130
65-160/154	90 L	1.5	3.4	49	136
65-250/154	90 L	1.5	3.4	67	–
65-250/224.2	100 L	2.2	4.7	76	–
65-250/224.1	100 L	2.2	4.7	76	–
65-250/304.2	100 L	3	6.4	81	–
65-250/304.1	100 L	3	6.4	81	–
65-250/404	112 M	4	8.2	88	–
80-160/054	80	0.55	1.4	44	141
80-160/074.2	80	0.75	1.9	46	144
80-160/074.1	80	0.75	1.9	46	144
80-160/114.2	90 S	1.1	2.6	51	155
80-160/114.1	90 S	1.1	2.6	51	155
80-160/154	90 L	1.5	3.4	54	161

Etaline	Motor			Single pumps	Twin pumps [1]
	Size	kW	400 V A	kg	kg
80-210/154	90 L	1.5	3.4	66	185
80-210/224	100 L	2.2	4.7	75	202
80-210/304.2	100 L	3	6.4	80	212
80-210/304.1	100 L	3	6.4	80	212
80-210/404	112 M	4	8.2	87	226
80-250/224.2	100 L	2.2	4.7	86	–
80-250/224.1	100 L	2.2	4.7	86	–
80-250/304	100 L	3	6.4	91	–
80-250/404	112 M	4	8.2	98	–
80-250/554	132 S	5.5	11.4	108	–
100-125/074	80	0.75	1.9	54	176
100-125/114	90 S	1.1	2.6	60	187
100-160/154	90 L	1.5	3.4	60	188
100-160/224	100 L	2.2	4.7	69	205
100-170/154	90 L	1.5	3.4	71	211
100-170/224.2	100 L	2.2	4.7	80	228
100-170/224.1	100 L	2.2	4.7	80	228
100-170/304	100 L	3	6.4	85	238
100-200/404.2	112 M	4	8.2	128	–
100-200/404.1	112 M	4	8.2	128	–
100-200/554	132 S	5.5	11.4	137	–
100-250/554.2	132 S	5.5	11.4	140	–
100-250/554.1	132 S	5.5	11.4	140	–
100-250/754.3	132 M	7.5	15.2	153	–
100-250/754.2	132 M	7.5	15.2	153	–
100-250/754.1	132 M	7.5	15.2	153	–
100-250/1104.2	160 M	11	21.5	181	–
100-250/1104.1	160 M	11	21.5	181	–
125-160/304	100 L	3	6.4	152	–
125-160/404	112 M	4	8.2	159	–
125-200/554	132 S	5.5	11.4	165	–
125-200/754	132 M	7.5	15.2	178	–
125-250/1104.2	160 M	11	21.5	214	–
125-250/1104.1	160 M	11	21.5	214	–
125-250/1504	160 L	15	28.5	240	–
150-200/754	132 M	7.5	15.2	213	–
150-200/1104	160 M	11	21.5	241	–
150-250/1504.3	160 L	15	28.5	260	–
150-250/1504.2	160 L	15	28.5	260	–
150-250/1504.1	160 L	15	28.5	260	–
150-250/1854.2	180 M	18.5	35.0	279	–
150-250/1854.1	180 M	18.5	35.0	279	–
150-250/2204	180 L	22	41.5	299	–
200-250/1504	160 L	15	28.5	314	–
200-250/1854	180 M	18.5	35.0	333	–
200-250/2204.2	180 L	22	41.5	353	–
200-250/2204.1	180 L	22	41.5	353	–
200-250/3004	200 L	30	56.0	413	–
200-315/3004.2	200 L	30	56.0	420	–
200-315/3004.1	200 L	30	56.0	420	–
200-315/3704.2	225 S	37	68.0	516	–
200-315/3704.1	225 S	37	68.0	516	–
200-315/4504	225 M	45	81.0	556	–
200-315/5504	250 M	55	100.0	695	–

[1] consisting of: 2 Etaline pumps, 1 suction-side Y-pipe without changeover flap, 1 discharge-side Y-pipe with changeover flap, screws, bolts and seal elements. Pumps and Y-pipes are supplied in separate packages.
For the two Y-pipes friction losses equivalent to those of approx. 9 m of straight pipe have to be taken into account.

Etaline GN with bolted-on discharge cover



List of Media Pumped

Fluid pumped	Application limits	Materials Casing/Impeller		Mechanical Seal				**Variant code**	Comments
		Grey Cast iron/ Grey Cast iron	Grey Cast iron Tin Bronze	AQ4EGG 2)	U3U3VGG	Q1Q1X4GG	BQ1EGG 2)		
		GN	MN	6	9	10	11		
Water 1)									
Service water	t ≤ 110 °C, p ≤ 10 bar	□				□		**GN 10**	
Heating water 4)	t ≤ 120 °C, p ≤ 10 bar	■					■	**GN 11**	If used as circulating pump as per DIN 4752; p_{max} ≤10 bar
Heating water 4)	t ≤ 140 °C, p ≤ 16 bar	■		■				**GN 6**	
Heating water 4)	t ≤ 110 °C, p ≤ 10 bar	□				□		**GN 10**	
Condensate 3)	t ≤ 120 °C, p ≤ 10 bar	■					■	**GN 11**	Provide open loop circuit MN 11 (processing via product number)
Cooling water (without antifreeze agent)	t ≤ 60 °C, p ≤ 10 bar	□				□		**GN 10**	Provide open-loop circuit MN 10
Cooling water pH value ≥7.5 (with antifreeze agent) 5)	t ≥ -30 °C, p ≤ 10 bar t ≤ 110 °C	■					■	**GN 11**	
Slightly contaminated water	t ≤ 60 °C, p ≤ 10 bar	□				□		**GN 10**	
Clean water 3)	t ≤ 60 °C, p ≤ 10 bar	■					■	**GN 11**	
Untreated water	t ≤ 60 °C, p ≤ 10 bar	□				□		**GN 10**	
Swimming pool water, fresh water	t ≤ 60 °C, p ≤ 10 bar	□				□		**GN 10**	In case of requirements as per DIN 19643, provide MN 10 (processing via product number)
Drinking water	t ≦ 60 °C, p ≦ 10 bar		□				□	**MN 11**	
Partly desalinated water	t ≤ 120 °C, p ≤ 10 bar	■					■	**GN 11**	
Refrigerants, cooling brines									
Cooling brine, inorganic pH ≥7.5, inhibited	t ≥ -30 °C, p ≤ 10 bar t ≤ 25 °C	■					■	**GN 11**	
Water with antifreeze agent pH ≥7.5 2)	t ≥ -30 °C, p ≤ 10 bar t ≤ 110 °C	■					■	**GN 11**	
Oils / emulsions									
Boring/grinding emulsion	t ≤ 60 °C, p ≤ 10 bar	□			□			**GN 9**	
Oil / water emulsion	t ≤ 60 °C, p ≤ 10 bar	□			□			**GN 9**	
Cleaning agents									
Degreasing/ cleaning solutions pH 7 to 14	t ≤ 90 °C, p ≤ 10 bar	□				□		**GN 10**	
Bottle rinsing lyes	t ≤ 90 °C, p ≤ 10 bar	□				□		**GN 10**	

■ = Standard □ = Prices and delivery times upon request

Selection example:
Given:
clean water of 20 °C; Q = 60 m^3/h, H = 28 m
Found: Etaline GN 65-160/752.2 GN 11

Pump size as per selection chart

Variant code

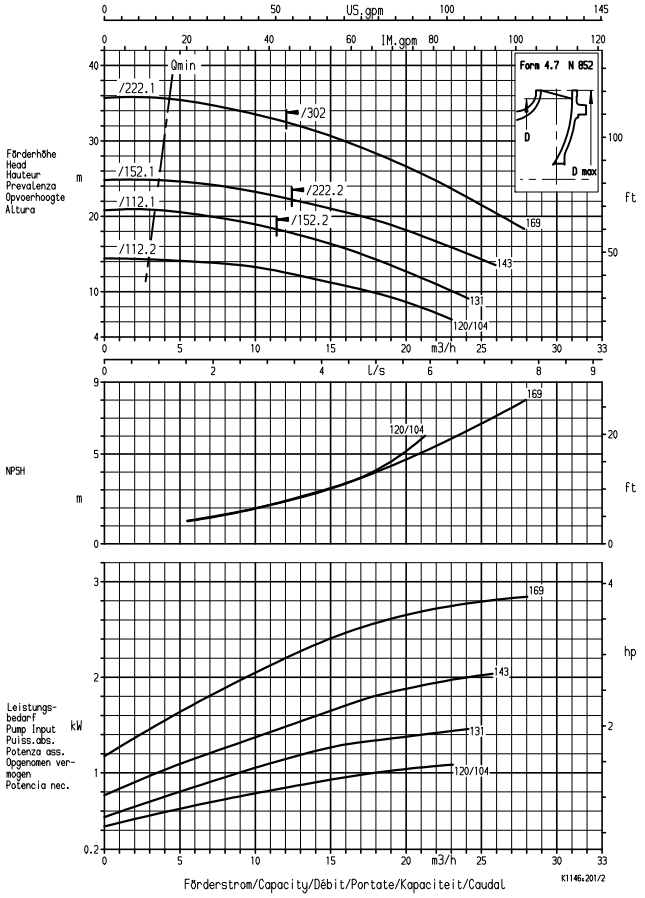
G = pump casing and impeller made of JL 1040 5)
N = stub shaft variant with standardised motor
11 = mechanical seal materials BQ1EGG (as per DIN 24 960)

1) General evaluation criteria for water analysis: pH value ≥ 7; content of chlorides (Cl)≤250 mg/kg, chlorine (Cl_2) ≤0.6 mg/kg.
2) Antifreeze agent on ethylene glycol basis with inhibitors. Content >20 to 50 % (for example, Antifrogen N)
3) No ultrapure water: conductivity at 25 °C: ≤800 µS/cm; chemically neutral to corrosion
4) For heating water we recommend application of the VDI 2035 or Vd TÜV 1466 standards, otherwise a reduced service life of the mechanical seal may be the consequence.

Mechanical seal material codes:
U3 = tungsten carbide (hard metal)
B = carbon, resin-impregnated
Q1 = silicon carbide
G = CrNiMo steel
V = fluorocarbon rubber (Viton)
X4 = special elastomer
E = EP rubber

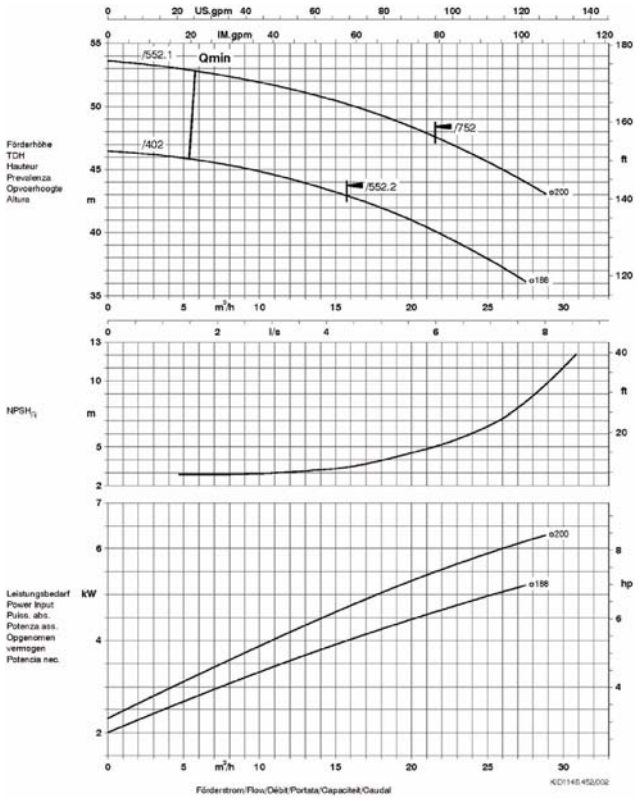
5) to EN 1561 GJL-250 (formerly GG-25)

Etaline 32-160

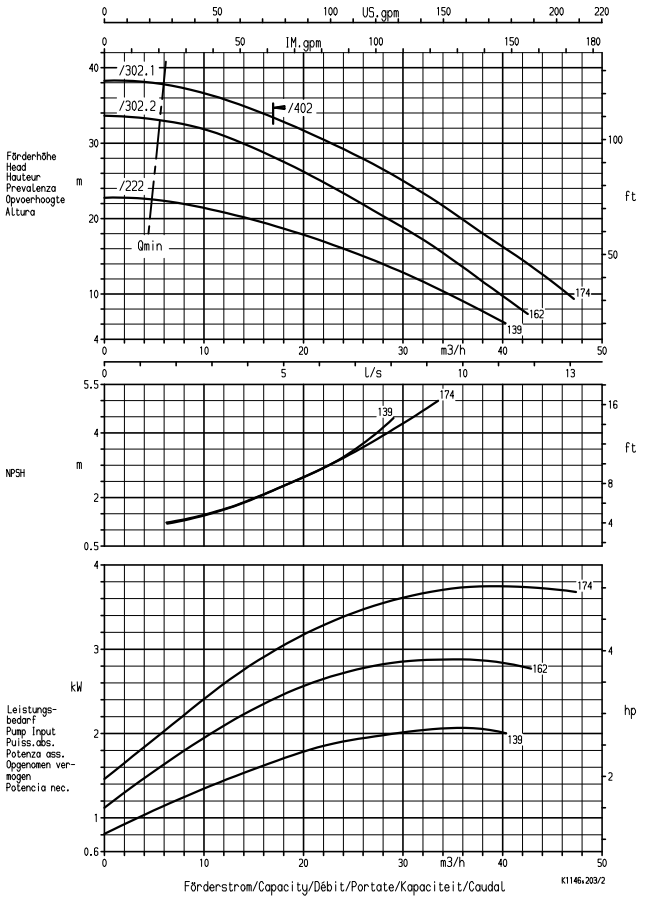


Etaline 32-200

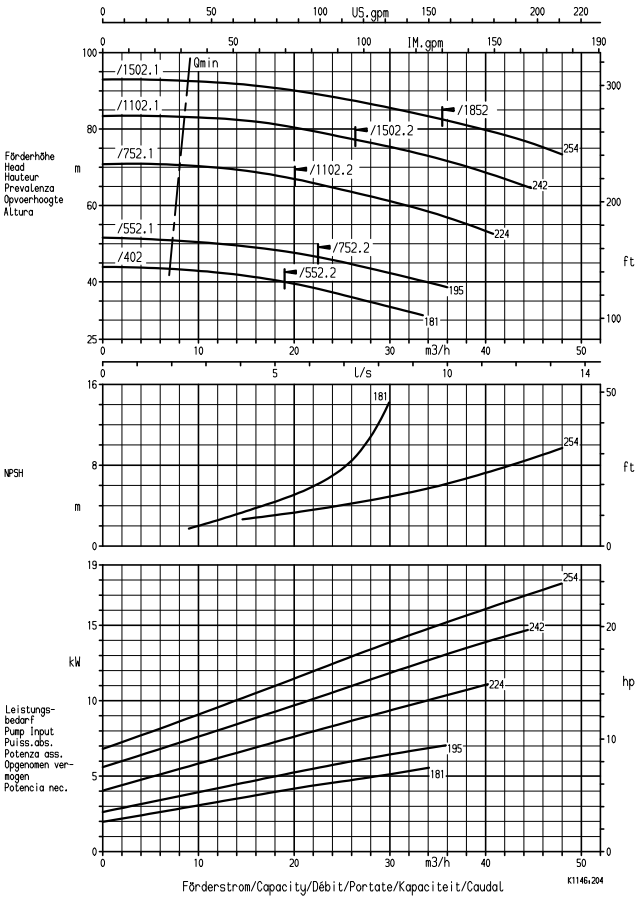
n ≈ 2900 rpm



Etaline 40-160

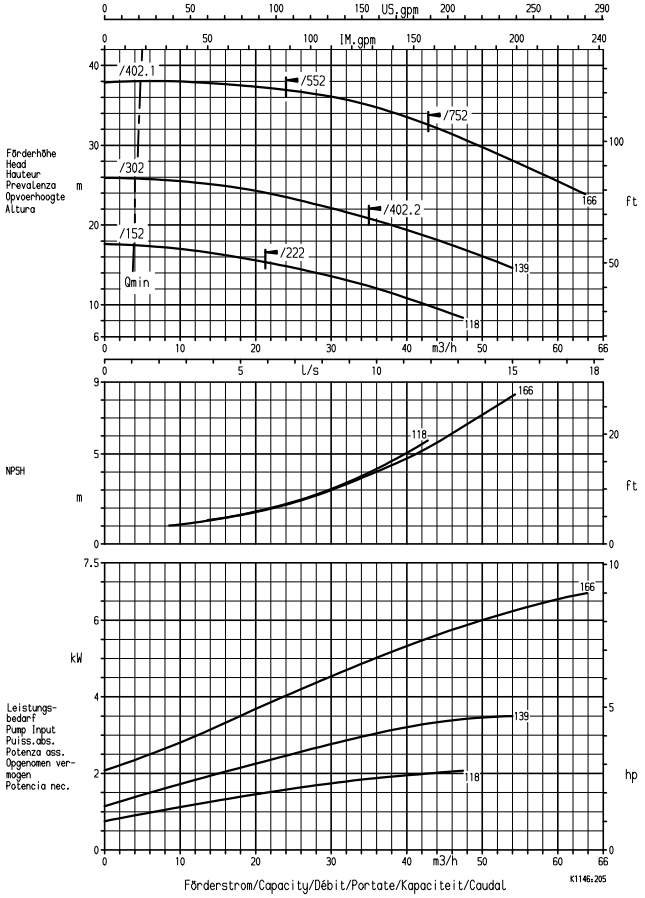


Etaline 40-250



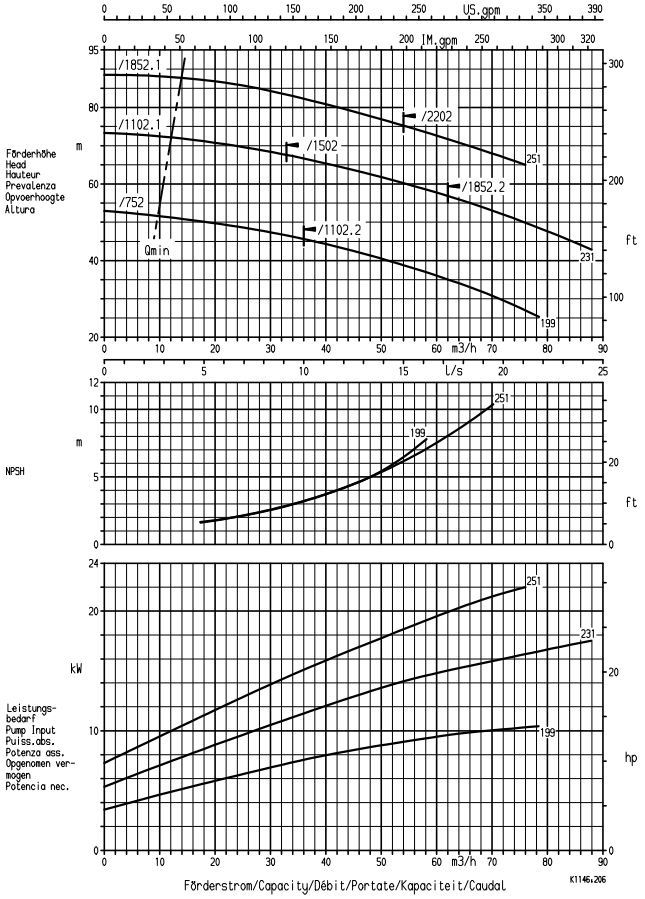
NPSH + 0,5 m Sicherheitszuschlag / security margin / marge de sécurité / margine di sicurezza / zekerheidsmarge

Etaline 50-160

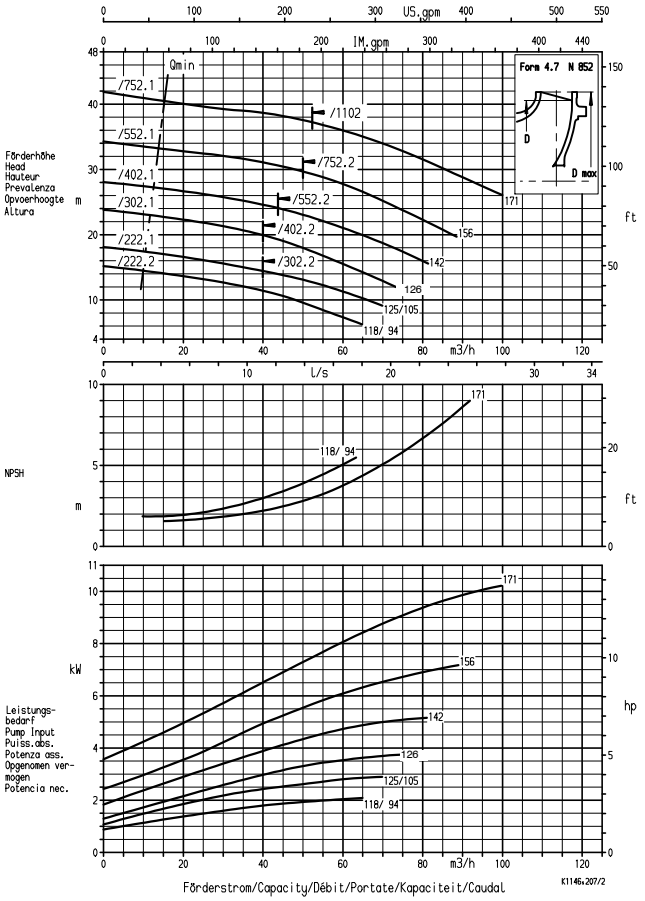


Etaline 50-250

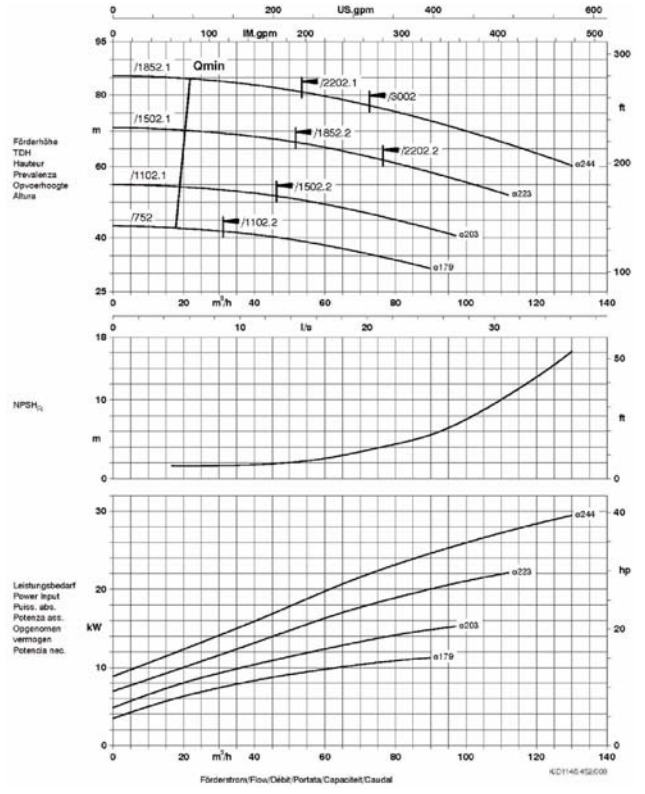
n ≈ 2900 rpm



Etaline 65-160

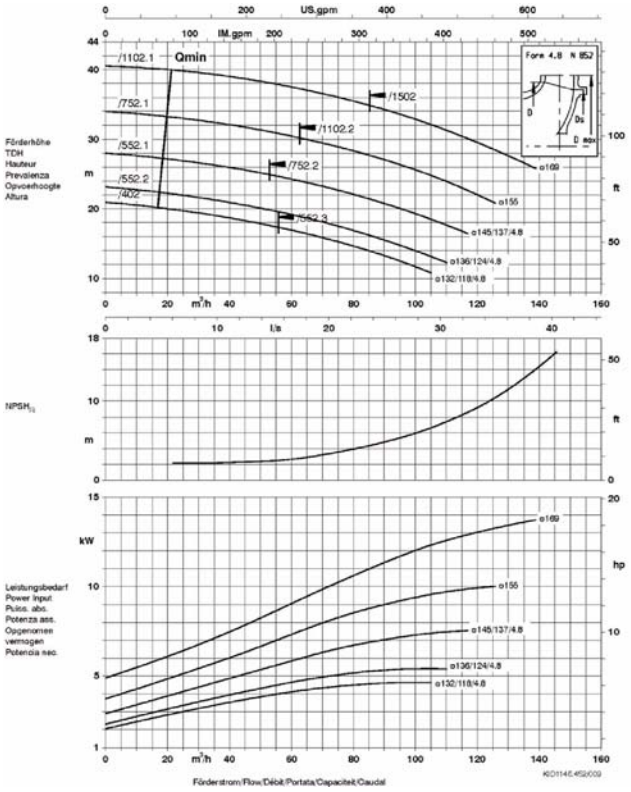


Etaline 65-250



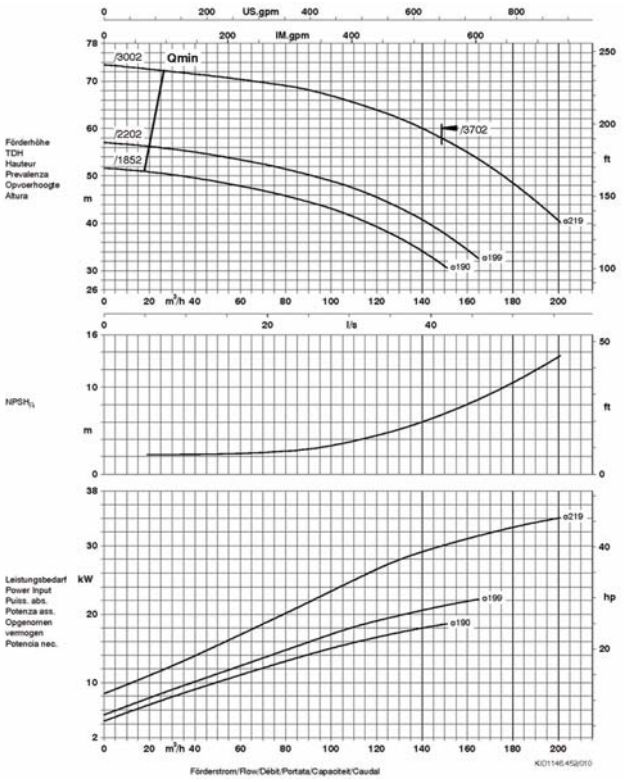
NPSH + 0,5 m Sicherheitszuschlag / security margin / marge de sécurité / margine di sicurezza / zekerheidsmarge

Etaline 80-160

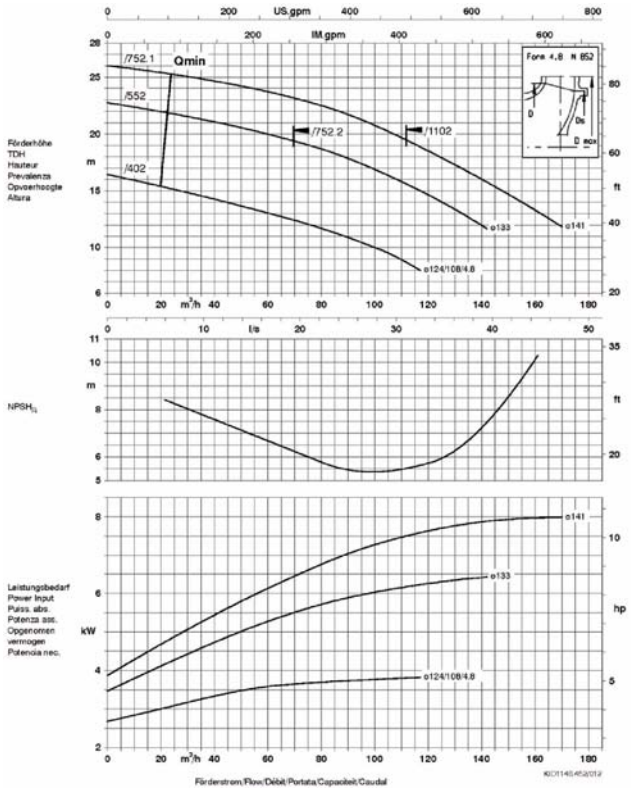


Etaline 80-210

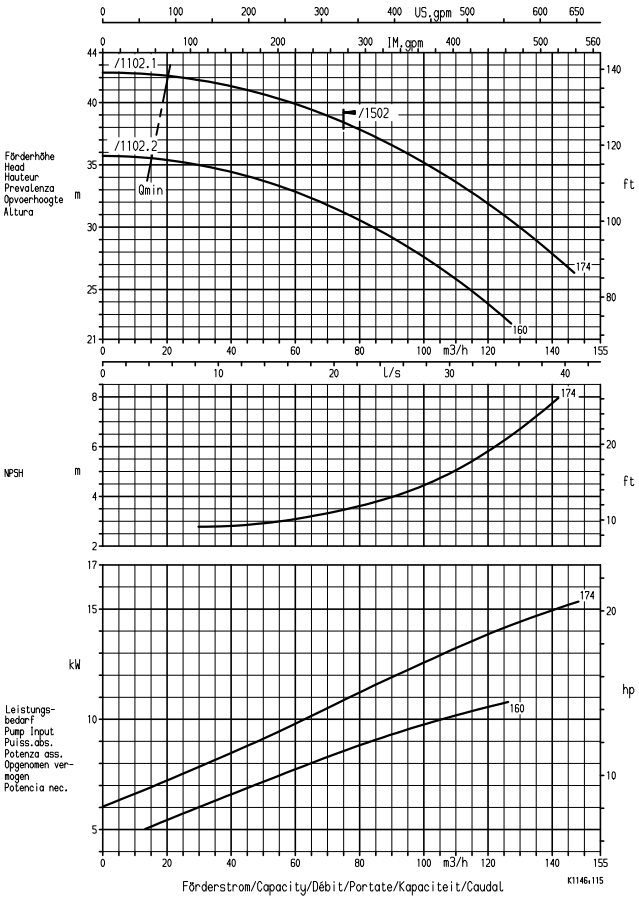
n ≈ 2900 rpm



Etaline 100-125

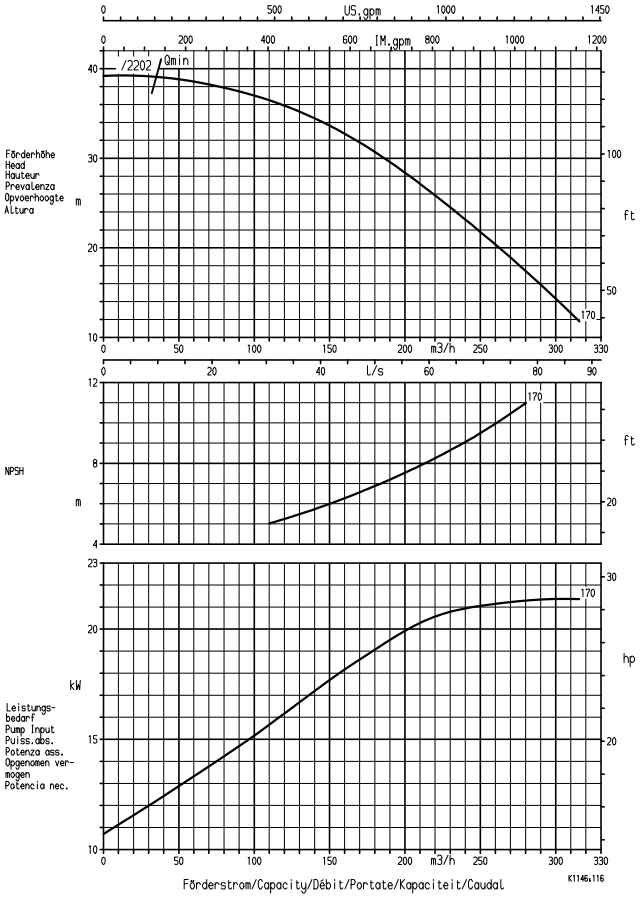


Etaline 100-160



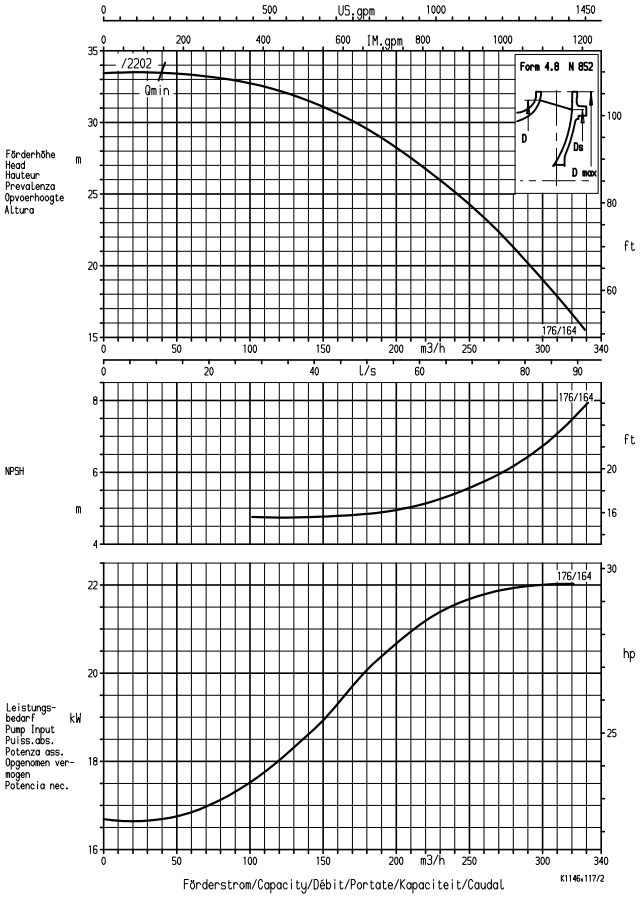
NPSH + 0,5 m Sicherheitszuschlag / security margin / marge de sécurité / margine di sicurezza / zekerheidsmarge

Etaline 100-170

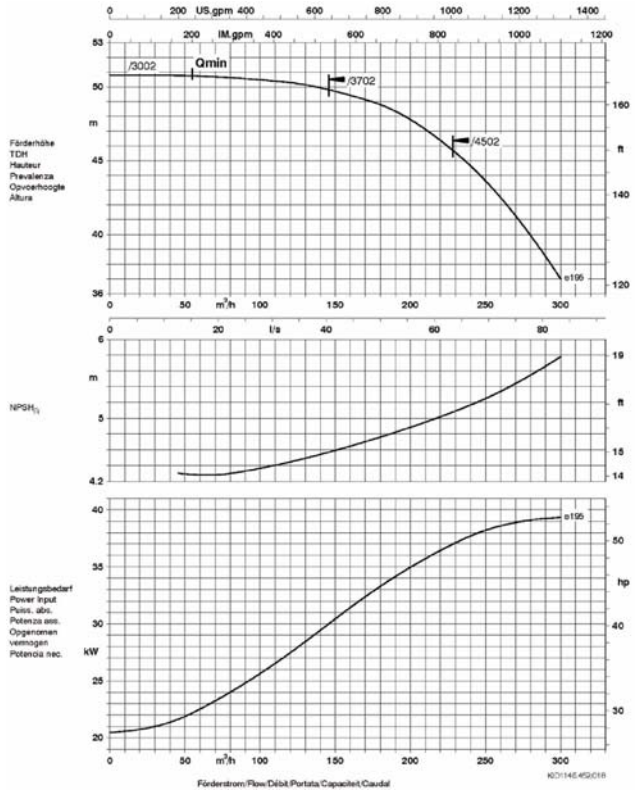


Etaline 125-160

n ≈ 2900 rpm

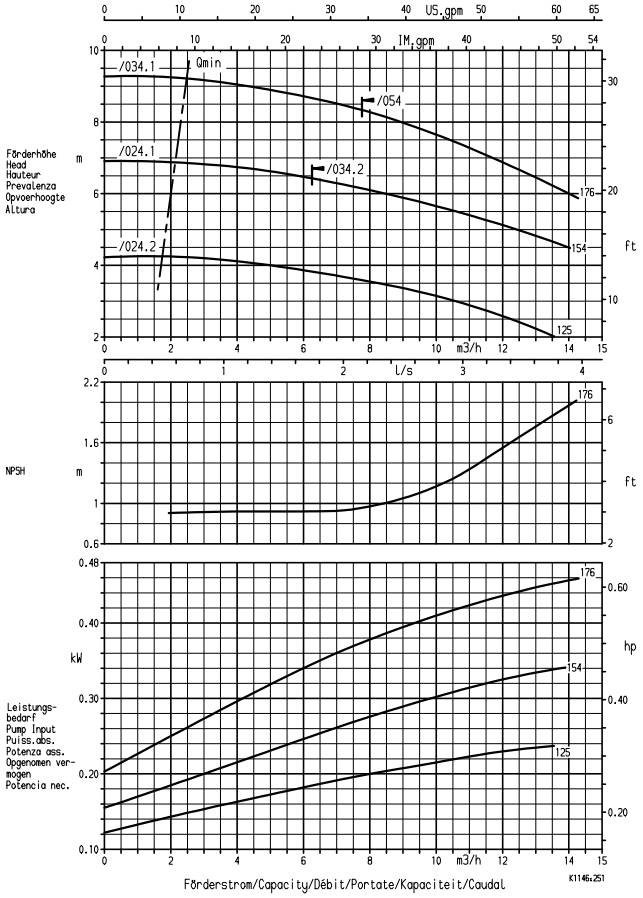


Etaline 125-200



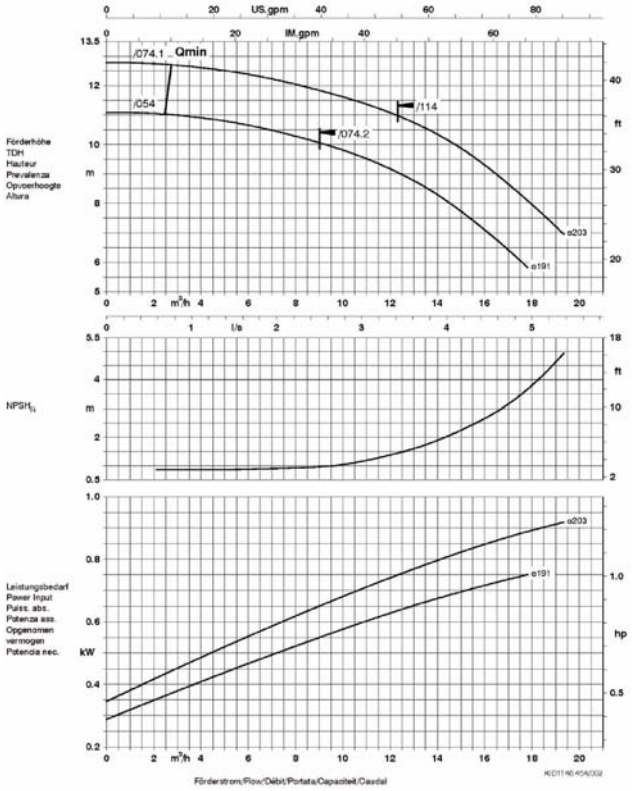
NPSH + 0,5 m Sicherheitszuschlag / security margin / marge de sécurité / margine di sicurezza / zekerheidsmarge

Etaline 32-160

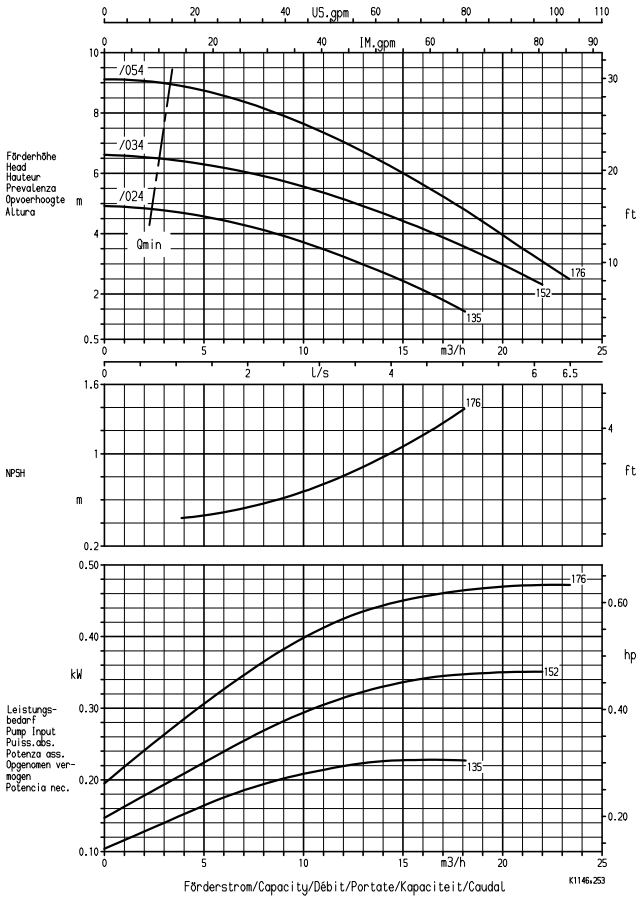


Etaline 32-200

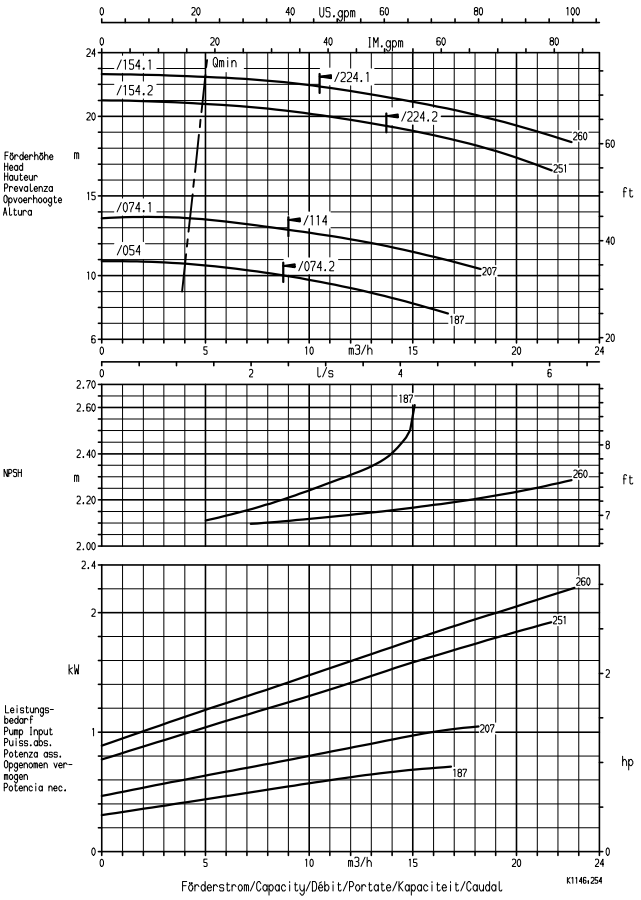
n ≈ 1450 rpm



Etaline 40-160

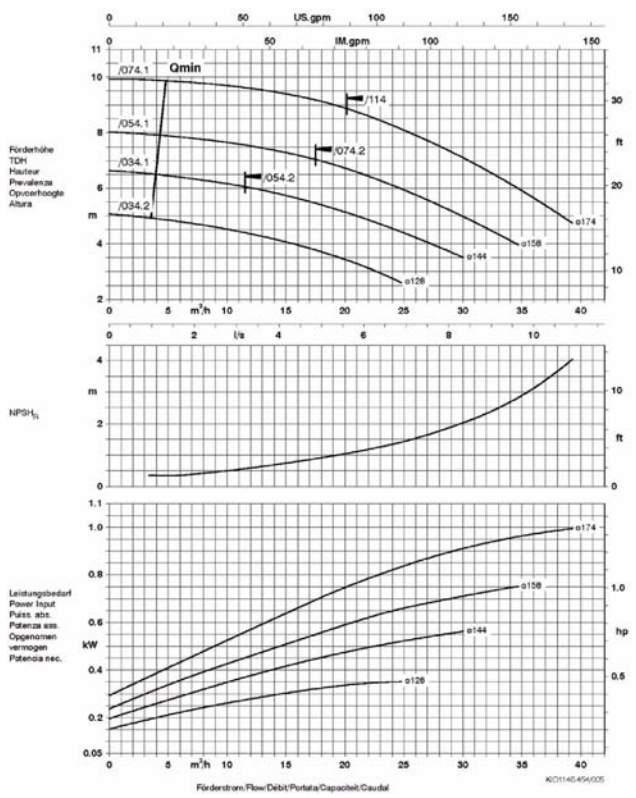


Etaline 40-250



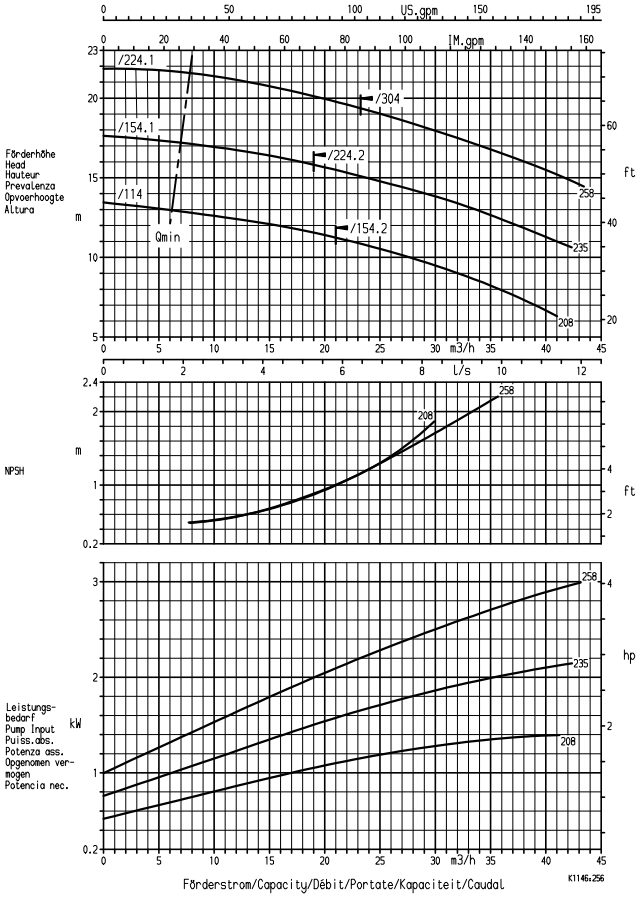
NPSH + 0,5 m Sicherheitszuschlag / security margin / marge de sécurité / margine di sicurezza / zekerheidsmarge

Etaline 50-160

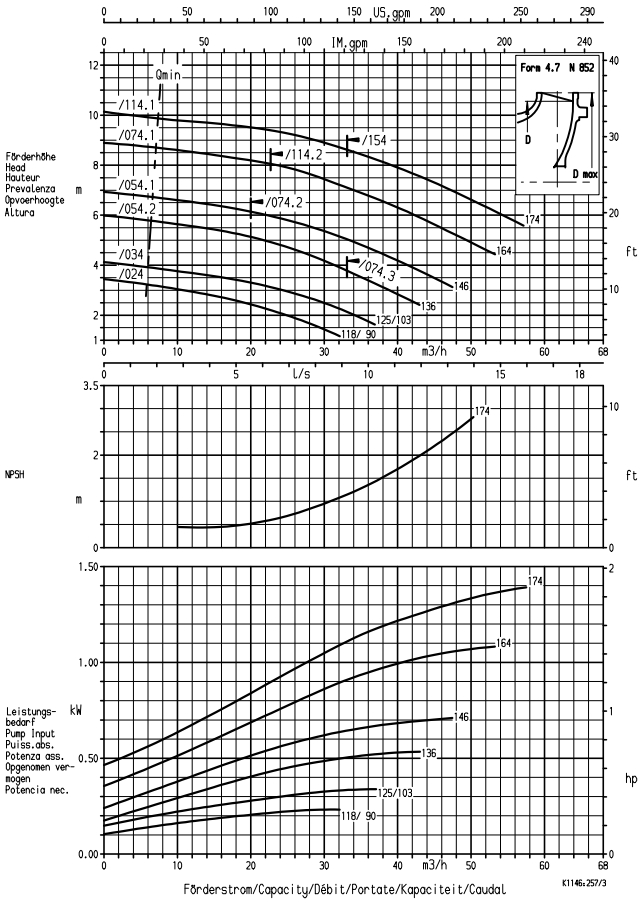


Etaline 50-250

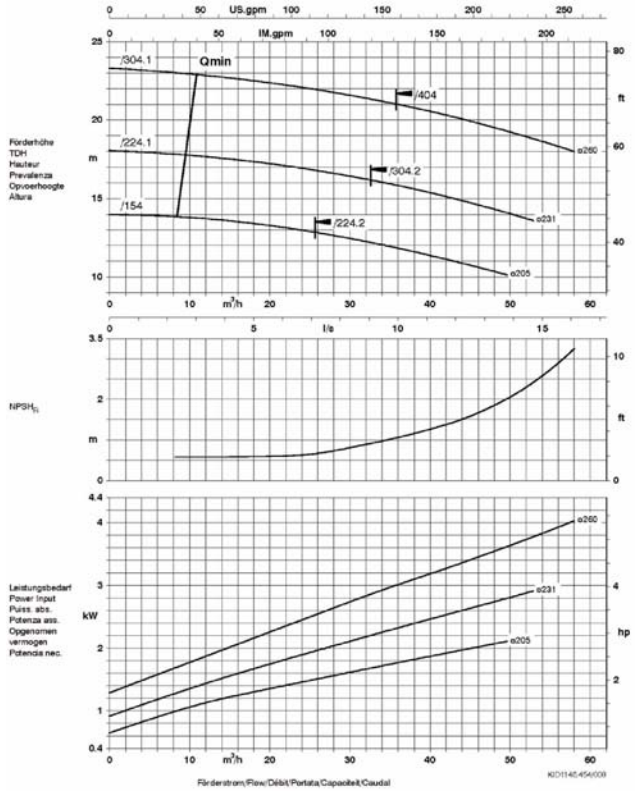
n ≈ 1450 rpm



Etaline 65-160

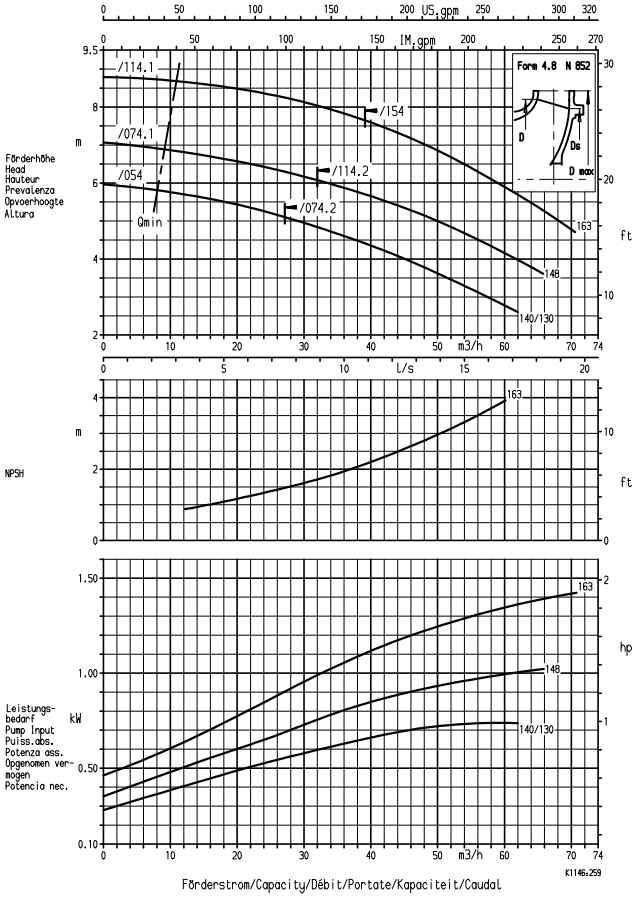


Etaline 65-250



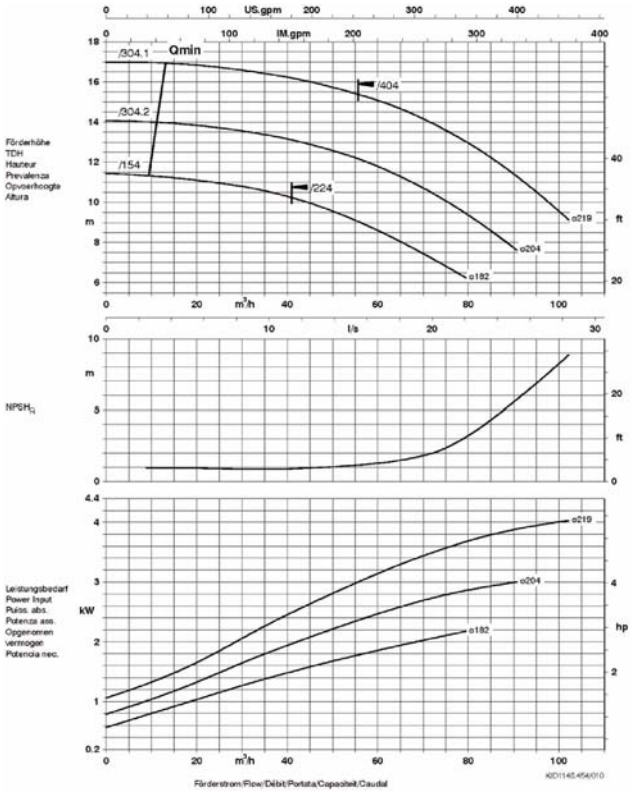
NPSH + 0,5 m Sicherheitszuschlag / security margin / marge de sécurité / margine di sicurezza / zekerheidsmarge

Etaline 80-160

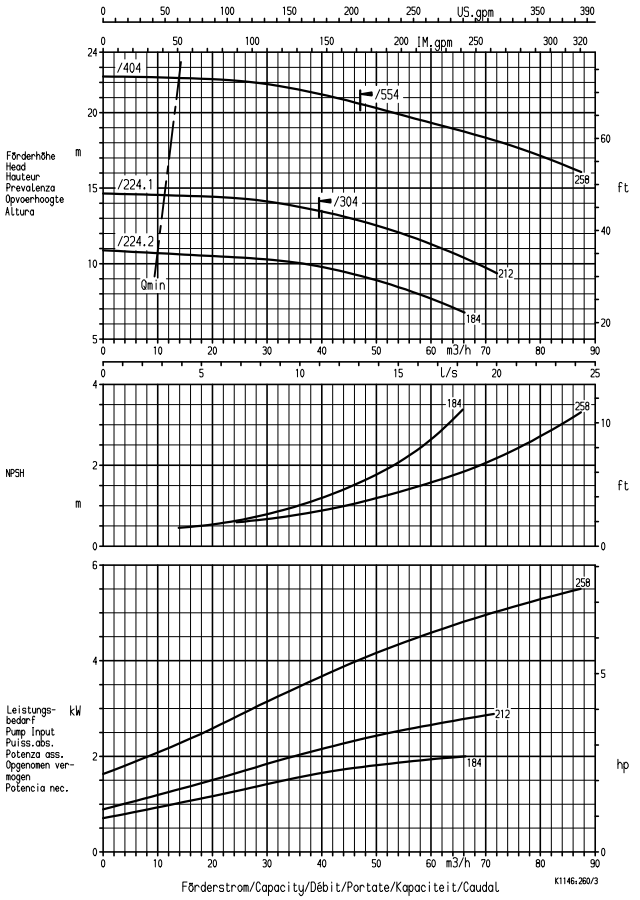


Etaline 80-210

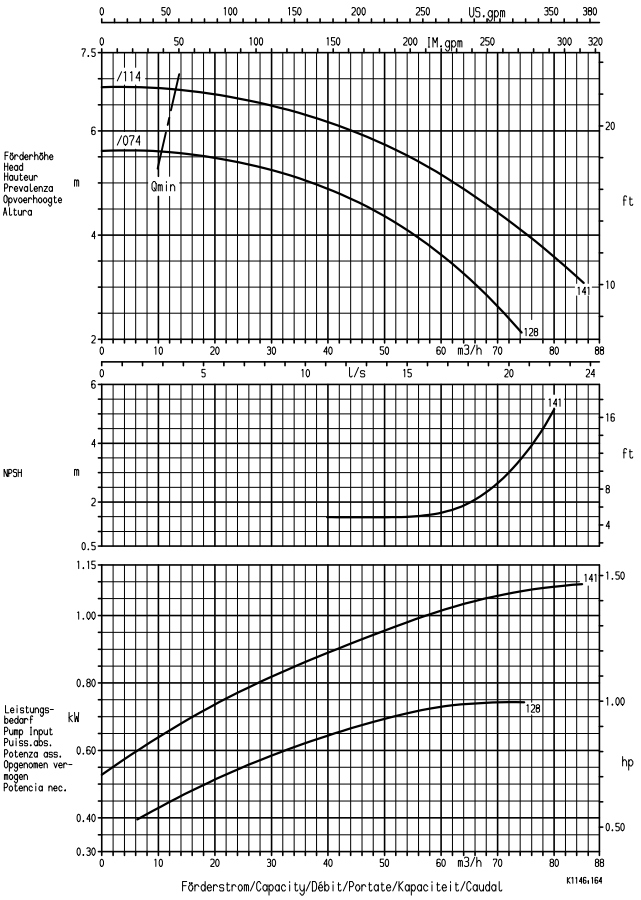
n ≈ 1450 rpm



Etaline 80-250

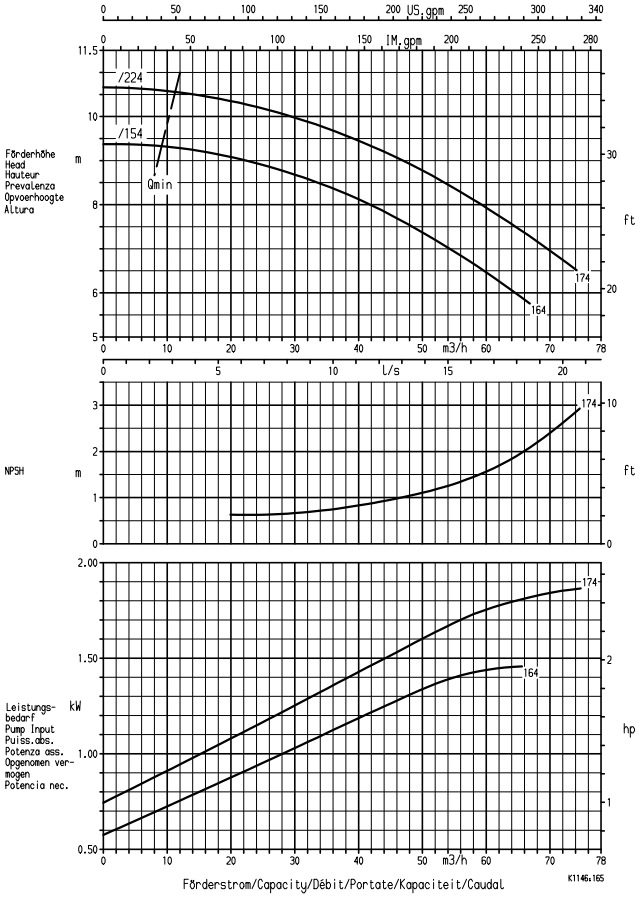


Etaline 100-125



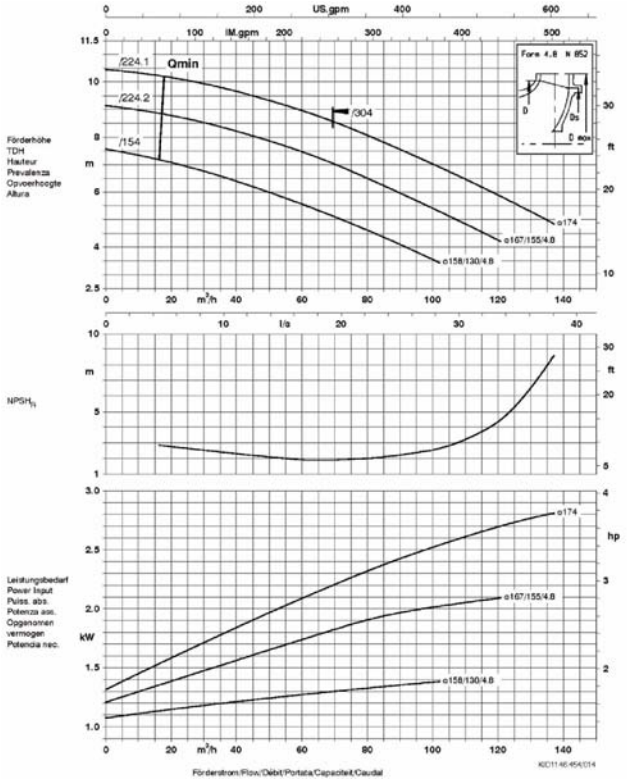
NPSH + 0,5 m Sicherheitszuschlag / security margin / marge de sécurité / margine di sicurezza / zekerheidsmarge

Etaline 100-160

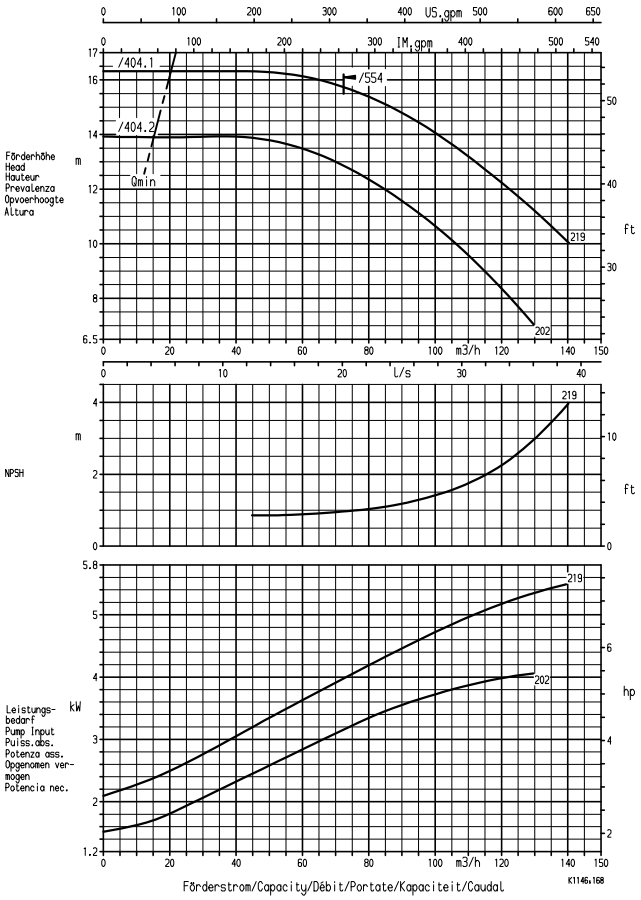


Etaline 100-170

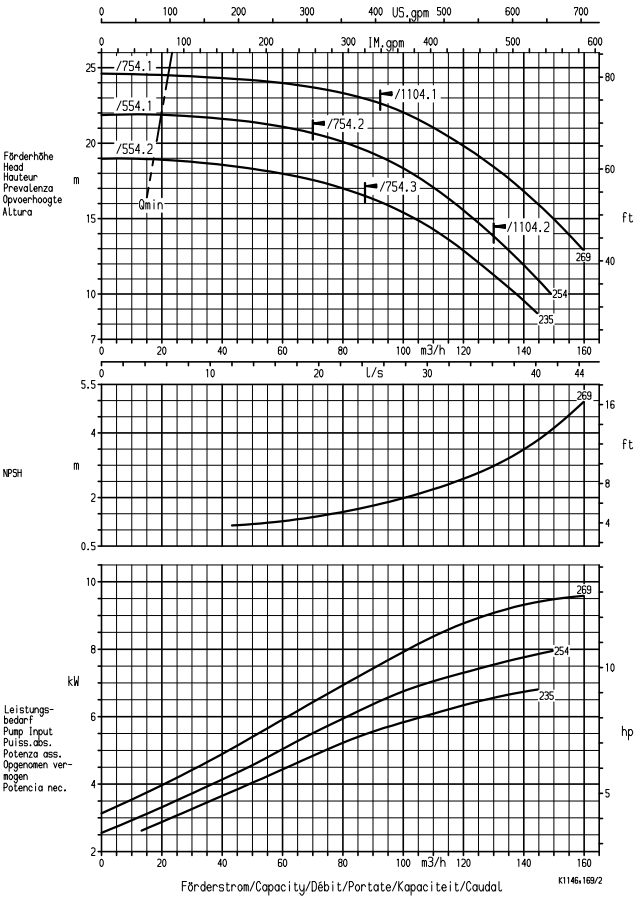
n ≈ 1450 rpm



Etaline 100-200

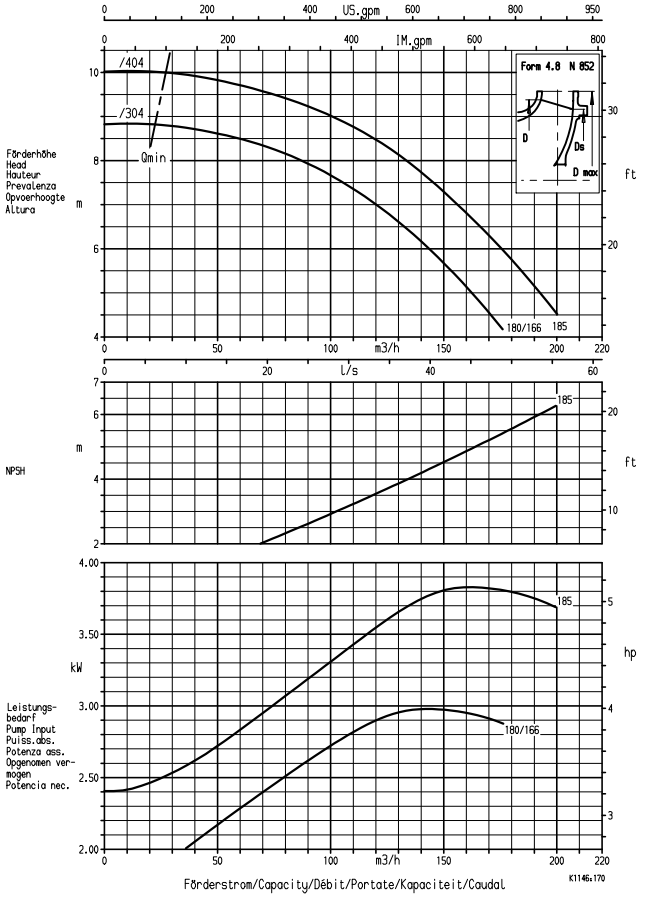


Etaline 100-250



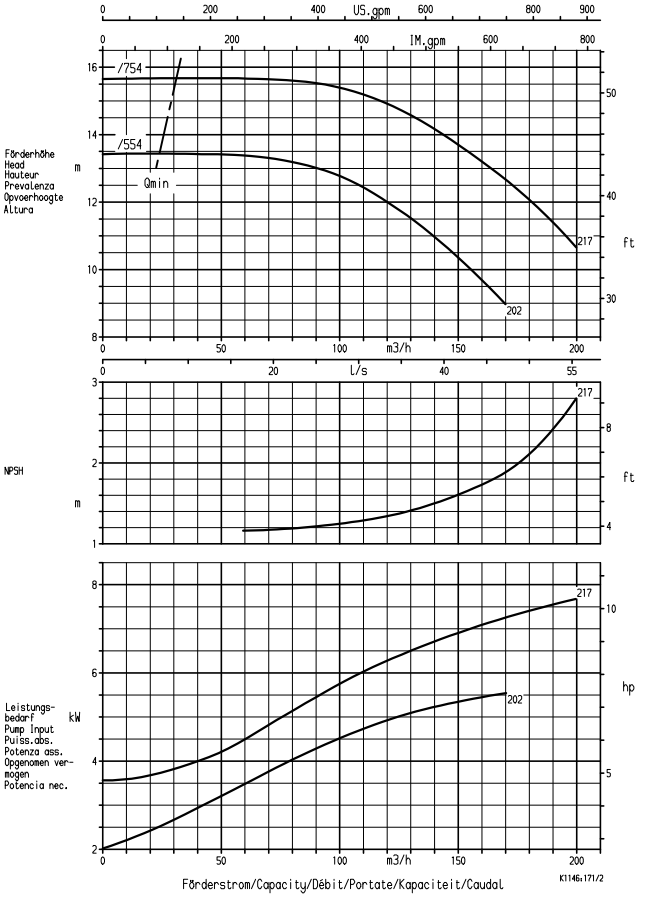
NPSH + 0,5 m Sicherheitszuschlag / security margin / marge de sécurité / margine di sicurezza / zekerheidsmarge

Etaline 125-160

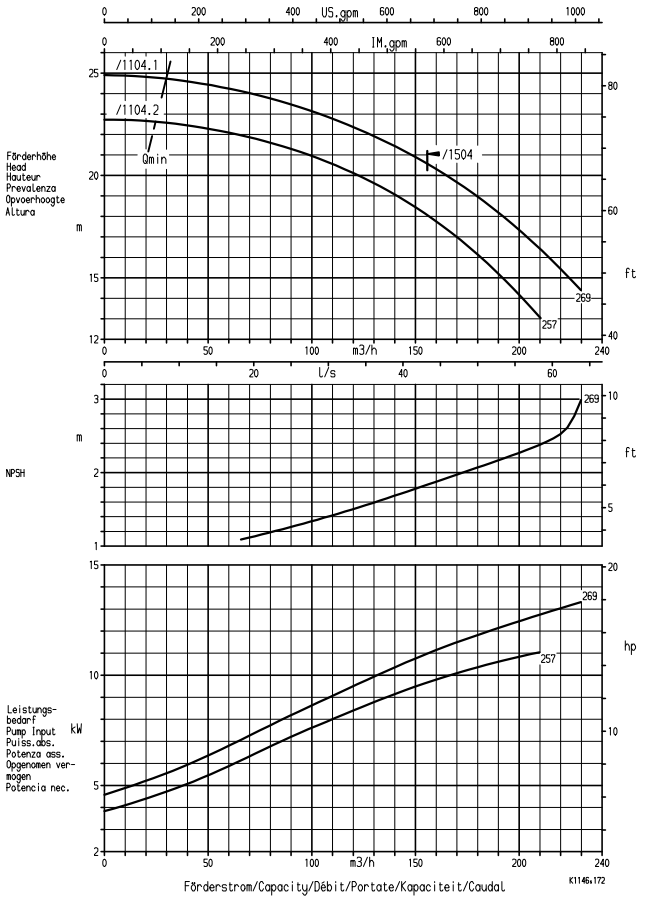


Etaline 125-200

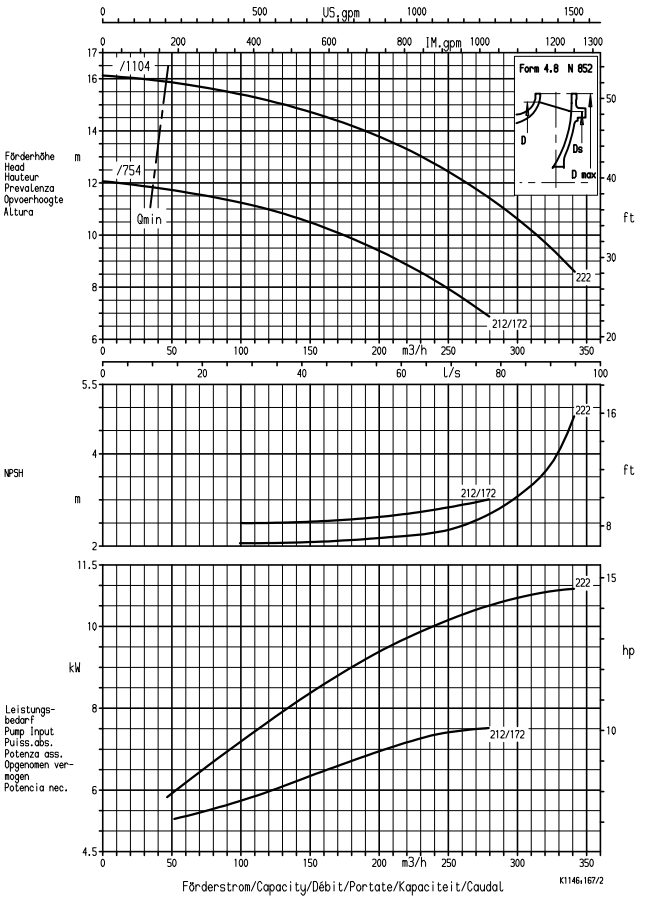
n ≈ 1450 rpm



Etaline 125-250

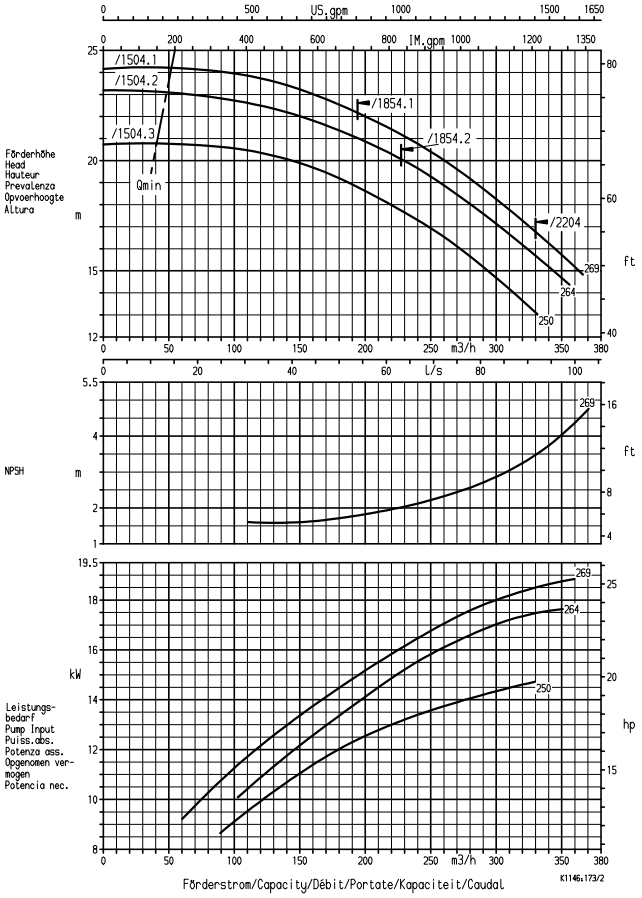


Etaline 150-200



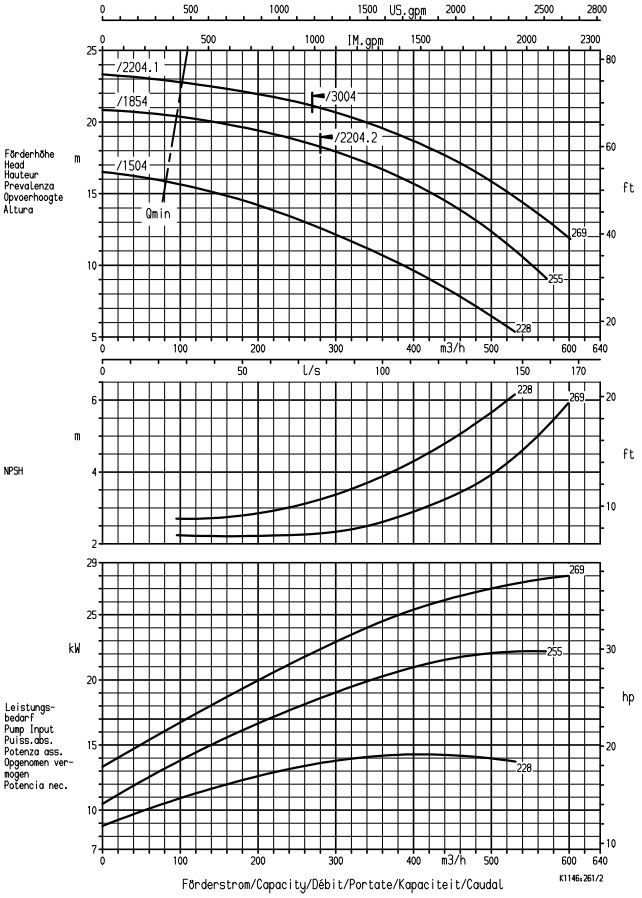
NPSH + 0,5 m Sicherheitszuschlag / security margin / marge de sécurité / margine di sicurezza / zekerheidsmarge

Etaline 150-250

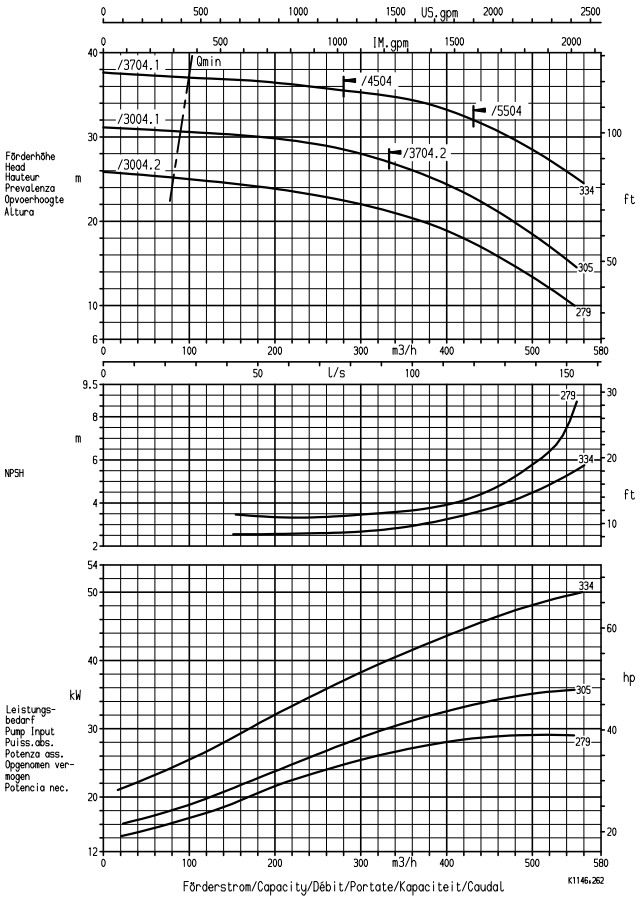


Etaline 200-250

n ≈ 1450 rpm

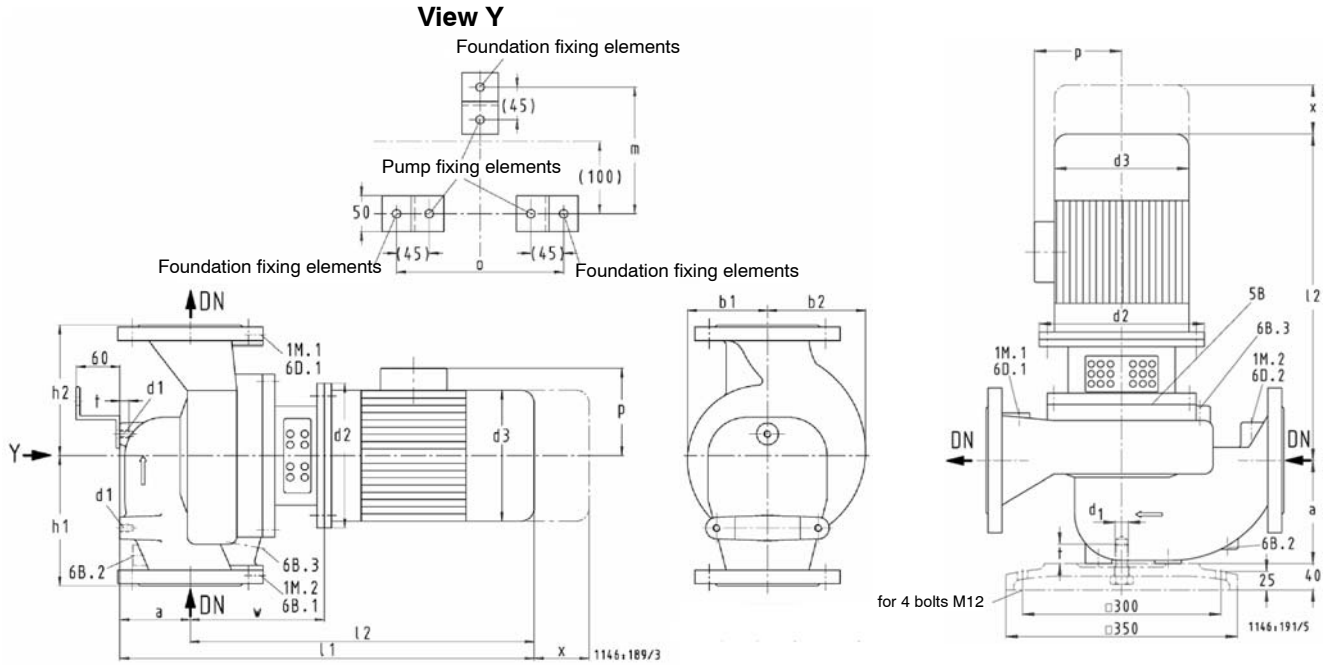


Etaline 200-315



NPSH + 0,5 m Sicherheitszuschlag / security margin / marge de sécurité / margine di sicurezza / zekerheidsmarge

n ≈ 2900 rpm
Etaline GN, MN



Tolerance of connecting dimensions as per EN 735

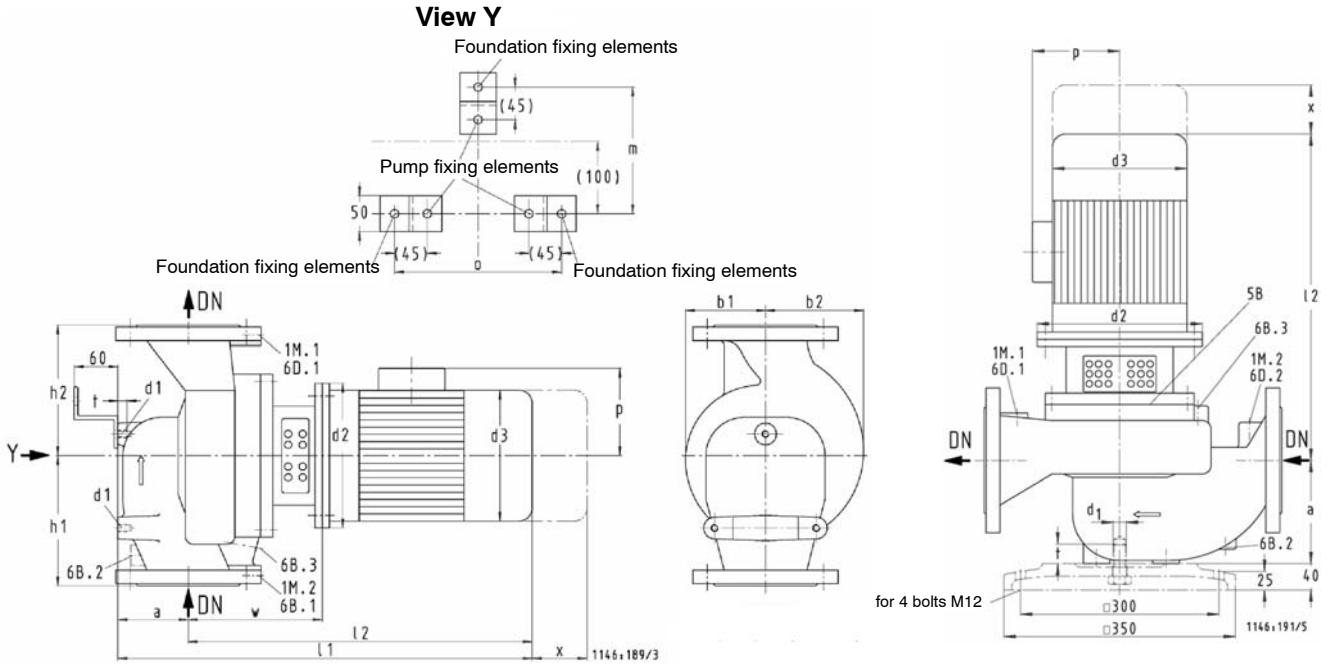
Etaline	DN [1]	a	≈ b_1	≈ b_2	d_1	d_2	d_3	p	h_1	h_2	≈l_1	≈l_2	t	≈x	w	1M.1/.2[2]	6B.1[2]	6B.2[2]	6B.3[2]	6D.1[2]	6D.2[2]	m	o
32-160/112.2	32	69	112	120	M10	200	162	120	160	160	508	439	12.5	100	170	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
32-160/112.1	32	69	112	120	M10	200	162	120	160	160	508	439	12.5	100	170	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
32-160/152.2	32	69	112	120	M10	200	190	128	160	160	521	452	12.5	100	170	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
32-160/152.1	32	69	112	120	M10	200	190	128	160	160	521	452	12.5	100	170	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
32-160/222.2	32	69	112	120	M10	200	190	128	160	160	547	478	12.5	100	170	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
32-160/222.1	32	69	112	120	M10	200	190	128	160	160	547	478	12.5	100	170	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
32-160/302	32	69	112	120	M10	250	213	135	160	160	600	531	12.5	100	184	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
32-200/402	32	95	129	135	M10	250	234	148	190	190	646	551	12.5	100	180	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
32-200/552.2	32	95	129	135	M10	300	266	167	190	190	711	616	12.5	100	203	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
32-200/552.1	32	95	129	135	M10	300	266	167	190	190	711	616	12.5	100	203	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
32-200/752	32	95	129	135	M10	300	266	167	190	190	711	616	12.5	100	203	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-160/222	40	80	112	119	M10	200	190	128	160	160	559	479	12.5	100	171	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-160/302.2	40	80	112	119	M10	250	213	135	160	160	612	532	12.5	100	185	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-160/302.1	40	80	112	119	M10	250	213	135	160	160	612	532	12.5	100	185	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-160/402	40	80	112	119	M10	250	234	148	160	160	636	556	12.5	100	185	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-250/402	40	95	161	168	M10	250	234	148	220	220	646	551	12.5	100	180	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-250/552.2	40	95	161	168	M10	300	266	167	220	220	711	616	12.5	100	203	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-250/552.1	40	95	161	168	M10	300	266	167	220	220	711	616	12.5	100	203	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-250/752.2	40	95	161	168	M10	300	266	167	220	220	711	616	12.5	100	203	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-250/752.1	40	95	161	168	M10	300	266	167	220	220	711	616	12.5	100	203	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-250/1102.2	40	95	161	168	M10	350	325	197	220	220	877	782	12.5	100	236	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-250/1102.1	40	95	161	168	M10	350	325	197	220	220	877	782	12.5	100	236	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-250/1502.2	40	95	161	168	M10	350	325	197	220	220	877	782	12.5	100	236	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-250/1502.1	40	95	161	168	M10	350	325	197	220	220	877	782	12.5	100	236	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
40-250/1852	40	95	161	168	M10	350	325	197	220	220	883	788	12.5	100	236	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-160/152	50	85	113	125	M10	200	190	128	170	170	543	458	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-160/222	50	85	113	125	M10	200	190	128	170	170	569	484	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-160/302	50	85	113	125	M10	250	213	135	170	170	622	537	12.5	100	190	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-160/402.2	50	85	113	125	M10	250	234	148	170	170	646	561	12.5	100	190	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-160/402.1	50	85	113	125	M10	250	234	148	170	170	646	561	12.5	100	190	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-160/552	50	85	113	125	M10	300	266	167	170	170	711	626	12.5	100	213	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-160/752	50	85	113	125	M10	300	266	167	170	170	711	626	12.5	100	213	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-250/752	50	100	160	175	M10	300	266	167	220	220	721	621	12.5	100	208	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-250/1102.2	50	100	160	175	M10	350	325	197	220	220	887	787	12.5	100	241	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-250/1102.1	50	100	160	175	M10	350	325	197	220	220	887	787	12.5	100	241	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-250/1502	50	100	160	175	M10	350	325	197	220	220	887	787	12.5	100	241	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-250/1852.2	50	100	160	175	M10	350	325	197	220	220	893	793	12.5	100	241	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-250/1852.1	50	100	160	175	M10	350	325	197	220	220	893	793	12.5	100	241	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190
50-250-2202	50	100	160	175	M10	350	370	258	220	220	951	851	12.5	100	241	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190

≈ x	Clearance for removal
1 M.1/.2	Pressure gauge connections
5 B	Ventilation - special design for vertical installation
6 B.1/.2/.3	Pumped liquid drain
6 D.1/.2	Pumped liquid venting

[1]) DN = EN 1092-2, PN 16
[2]) Rc = ISO 7/1

Pump sizes Etaline 32-160/... to 100-160/... are fixed by three steel angle feet.
Pump sizes Etaline 100-170/... to 200-315/... are fixed by cast iron pump foot (EN-GJL).

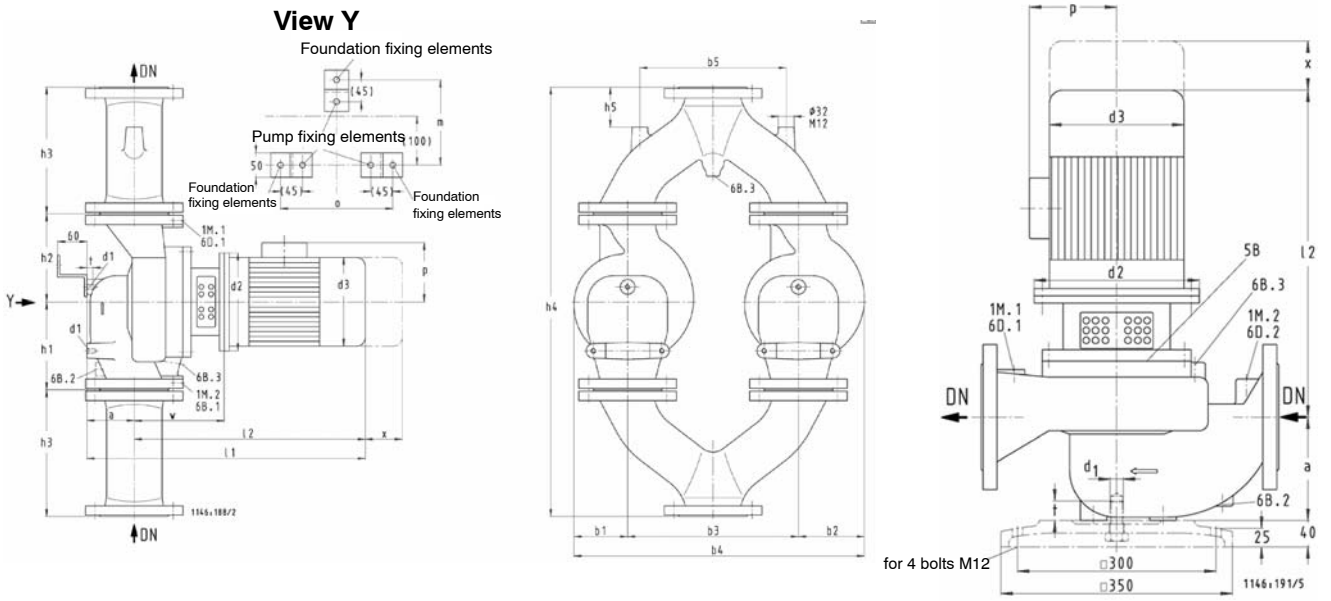
n ≈ 2900 rpm
Etaline GN, MN



Tolerance of connecting dimensions as per EN 735

Etaline	DN 1)	a	≈ b_1	≈ b_2	d_1	d_2	d_3	p	h_1	h_2	≈l_1	≈l_2	t	≈x	w	1M.1/.2 2)	6B.1 2)	6B.2 2)	6B.3 2)	6D.1 2)	6D.2 2)	m	o
65-160/222.2	65	100	113	125	M10	200	190	128	170	170	584	484	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210
65-160/222.1	65	100	113	125	M10	200	190	128	170	170	584	484	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210
65-160/302.2	65	100	113	125	M10	250	213	135	170	170	637	537	12.5	100	190	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210
65-160/302.1	65	100	113	125	M10	250	213	135	170	170	637	537	12.5	100	190	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210
65-160/402.2	65	100	113	125	M10	250	234	148	170	170	661	561	12.5	100	190	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210
65-160/402.1	65	100	113	125	M10	250	234	148	170	170	661	561	12.5	100	190	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210
65-160/552.2	65	100	113	125	M10	300	266	167	170	170	726	626	12.5	100	213	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210
65-160/552.1	65	100	113	125	M10	300	266	167	170	170	726	626	12.5	100	213	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210
65-160/752.2	65	100	113	125	M10	300	266	167	170	170	726	626	12.5	100	213	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210
65-160/752.1	65	100	113	125	M10	300	266	167	170	170	726	626	12.5	100	213	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210
65-160/1102	65	100	113	125	M10	350	325	197	170	170	892	792	12.5	100	246	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210
65-250/752	65	105	167	190	M10	300	266	167	225	250	736	631	12.5	100	218	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
65-250/1102.2	65	105	167	190	M10	350	325	197	225	250	902	797	12.5	100	251	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
65-250/1102.1	65	105	167	190	M10	350	325	197	225	250	902	797	12.5	100	251	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
65-250/1502.2	65	105	167	190	M10	350	325	197	225	250	902	797	12.5	100	251	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
65-250/1502.1	65	105	167	190	M10	350	325	197	225	250	902	797	12.5	100	251	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
65-250/1852.2	65	105	167	190	M10	350	325	197	225	250	908	803	12.5	100	251	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
65-250/1852.1	65	105	167	190	M10	350	325	197	225	250	908	803	12.5	100	251	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
65-250/2202.2	65	105	167	190	M10	350	370	258	225	250	966	861	12.5	100	251	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
65-250/2202.1	65	105	167	190	M10	350	370	258	225	250	966	861	12.5	100	251	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
65-250/3002	65	105	167	190	M10	400	422	305	225	250	1025	920	12.5	100	251	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
80-160/402	80	97	113	135	M10	250	234	148	180	180	668	571	12.5	100	200	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
80-160/552.3	80	97	113	135	M10	300	266	167	180	180	733	636	12.5	100	223	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
80-160/552.2	80	97	113	135	M10	300	266	167	180	180	733	636	12.5	100	223	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
80-160/552.1	80	97	113	135	M10	300	266	167	180	180	733	636	12.5	100	223	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
80-160/752.2	80	97	113	135	M10	300	266	167	180	180	733	636	12.5	100	223	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
80-160/752.1	80	97	113	135	M10	300	266	167	180	180	733	636	12.5	100	223	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
80-160/1102.2	80	97	113	135	M10	350	325	197	180	180	899	802	12.5	100	256	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
80-160/1102.1	80	97	113	135	M10	350	325	197	180	180	899	802	12.5	100	256	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
80-160/1502	80	97	113	135	M10	350	325	197	180	180	899	802	12.5	100	256	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230
80-210/1852	80	151	140	160	M10	350	325	197	250	250	929	778	12.5	140	226	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	195	230
80-210/2202	80	151	140	160	M10	350	370	258	250	250	987	836	12.5	140	226	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	195	230
80-210/3002	80	151	140	160	M10	400	422	305	250	250	1046	895	12.5	140	226	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	195	230
80-210/3702	80	151	140	160	M10	400	422	305	250	250	1046	895	12.5	140	226	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	195	230
100-125/402	100	121	113	153	M10	250	234	148	230	220	671	550	12.5	100	179	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	195	230
100-125/552	100	121	113	153	M10	300	266	167	230	220	736	615	12.5	100	202	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	195	230
100-125/752.2	100	121	113	153	M10	300	266	167	230	220	736	615	12.5	100	202	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	195	230
100-125/752.1	100	121	113	153	M10	300	266	167	230	220	736	615	12.5	100	202	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	195	230
100-125/1102	100	121	113	153	M10	350	325	197	230	220	902	781	12.5	100	235	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	195	230
100-160/1102.2	100	118	114	144	M10	350	325	197	250	200	907	789	12.5	100	243	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	195	230
100-160/1102.1	100	118	114	144	M10	350	325	197	250	200	907	789	12.5	100	243	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	195	230
100-1601502	100	118	114	144	M10	350	325	197	250	200	907	789	12.5	100	243	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	195	230
100-170/1502	100	157	121	155	M20	350	325	197	245	205	949	792	25.0	100	246	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	-	-
100-170/1852	100	157	121	155	M20	350	325	197	245	205	955	798	25.0	100	246	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	-	-
100-170/2202	100	157	121	155	M20	350	370	258	245	205	1013	856	25.0	100	246	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	-	-
125-160/2202	125	203	173	220	M20	350	370	258	340	280	1059	856	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-
125-200/3002	125	207	175	213	M20	400	422	305	340	280	1122	915	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-
125-200/3702	125	207	175	213	M20	400	422	305	340	280	1122	915	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-
125-200/4502	125	207	175	213	M20	450	468	305	340	280	1232	1025	25.0	140	270	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-

n ≈ 1450 rpm
Etaline GN, MN



Tolerance of connecting dimensions as per EN 735

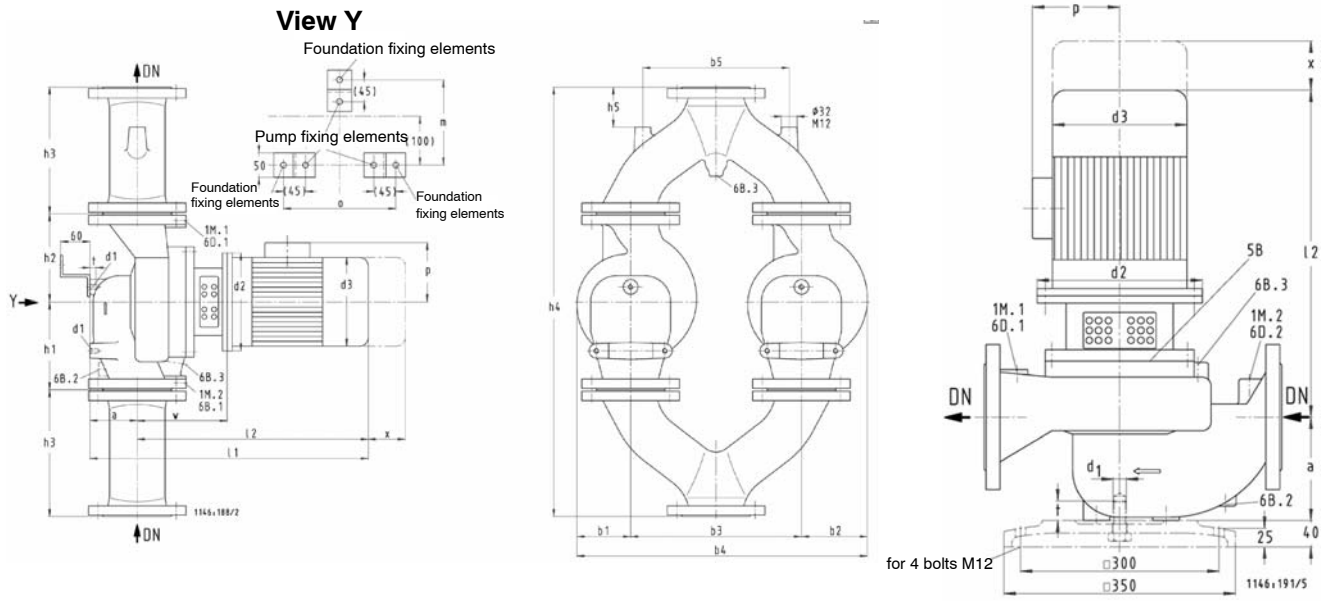
Etaline	DN[1]	a	≈ b_1	≈ b_2	d_1	d_2	d_3	p	h_1	h_2	≈l_1	≈l_2	t	≈x	w	1M.1/.2[2]	6B.1[2]	6B.2[2]	6B.3[2]	6D.1[2]	6D.2[2]	m	o	b_3	b_4	b_5	h_3	h_4	h_5
32-160/024.2	32	69	112	120	M10	160	145	111	160	160	456	387	12.5	100	150	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
32-160/024.1	32	69	112	120	M10	160	145	111	160	160	456	387	12.5	100	150	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
32-160/034.2	32	69	112	120	M10	160	145	111	160	160	456	387	12.5	100	150	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
32-160/034.1	32	69	112	120	M10	160	145	111	160	160	456	387	12.5	100	150	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
32-160/054	32	69	112	120	M10	200	162	120	160	160	494	425	12.5	100	170	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
32-200/054	32	95	129	135	M10	200	162	120	190	190	516	421	12.5	100	166	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
32-200/074.2	32	95	129	135	M10	200	162	120	190	190	516	421	12.5	100	166	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
32-200/074.1	32	95	129	135	M10	200	162	120	190	190	516	421	12.5	100	166	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
32-200/114	32	95	129	135	M10	200	190	128	190	190	543	448	12.5	100	166	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
40-160/024	40	80	112	119	M10	160	145	111	160	160	468	388	12.5	100	151	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	275	506	230	190	700	60
40-160/034	40	80	112	119	M10	160	145	111	160	160	468	388	12.5	100	151	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	275	506	230	190	700	60
40-160/054	40	80	112	119	M10	200	162	120	160	160	506	426	12.5	100	171	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	275	506	230	190	700	60
40-250/054	40	95	161	168	M10	200	162	120	220	220	516	421	12.5	100	166	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
40-250/074.2	40	95	161	168	M10	200	162	120	220	220	516	421	12.5	100	166	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
40-250/074.1	40	95	161	168	M10	200	162	120	220	220	516	421	12.5	100	166	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
40-250/114	40	95	161	168	M10	200	190	128	220	220	543	448	12.5	100	166	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
40-250/154.2	40	95	161	168	M10	200	190	128	220	220	569	474	12.5	100	166	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
40-250/154.1	40	95	161	168	M10	200	190	128	220	220	569	474	12.5	100	166	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
40-250/224.2	40	95	161	168	M10	250	213	135	220	220	622	527	12.5	100	180	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
40-250/224.1	40	95	161	168	M10	250	213	135	220	220	622	527	12.5	100	180	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
50-160/034.2	50	85	113	125	M10	160	145	111	170	170	478	393	12.5	100	156	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	300	538	230	210	760	65
50-160/034.1	50	85	113	125	M10	160	145	111	170	170	478	393	12.5	100	156	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	300	538	230	210	760	65
50-160/054.2	50	85	113	125	M10	200	162	120	170	170	516	431	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	300	538	230	210	760	65
50-160/054.1	50	85	113	125	M10	200	162	120	170	170	516	431	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	300	538	230	210	760	65
50-160/074.2	50	85	113	125	M10	200	162	120	170	170	516	431	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	300	538	230	210	760	65
50-160/074.1	50	85	113	125	M10	200	162	120	170	170	516	431	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	300	538	230	210	760	65
50-160/114	50	85	113	125	M10	200	190	128	170	170	543	458	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	300	538	230	210	760	65
50-250/114	50	100	160	175	M10	200	190	128	220	220	553	453	12.5	100	171	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
50-250/154.2	50	100	160	175	M10	200	190	128	220	220	579	479	12.5	100	171	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
50-250/154.1	50	100	160	175	M10	200	190	128	220	220	579	479	12.5	100	171	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
50-250/224.2	50	100	160	175	M10	250	213	135	220	220	632	532	12.5	100	185	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
50-250/224.1	50	100	160	175	M10	250	213	135	220	220	632	532	12.5	100	185	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-
50-250/304	50	100	160	175	M10	250	213	135	220	220	667	567	12.5	100	185	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	190	-	-	-	-	-	-

≈ x	Clearance for removal
1 M.1/.2	Pressure gauge connections
5 B	Ventilation – special design for vertical installation
6 B.1/.2/.3	Pumped liquid drain
6 D.1/.2	Pumped liquid venting

1) DN = EN 1092-2, PN 16
2) Rc = ISO 7/1

Pump sizes Etaline 32-160/... to 100-160/... are fixed by three steel angle feet.
Pump sizes Etaline 100-170/... to 200-315/... are fixed by cast iron pump foot (EN-GJL).

n ≈ 1450 rpm
Etaline GN, MN



Tolerance of connecting dimensions as per EN 735

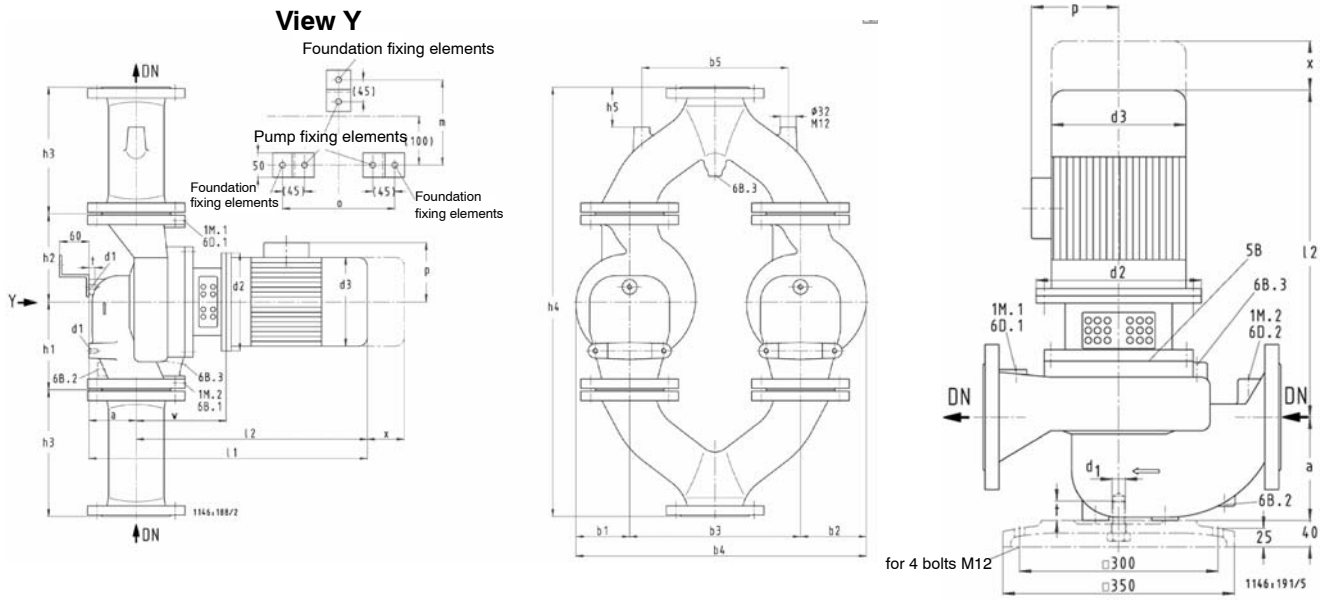
Etaline	DN[1]	a	≈ b_1	≈ b_2	d_1	d_2	d_3	p	h_1	h_2	≈l_1	≈l_2	t	≈x	w	1M.1/.2[2]	6B.1[2]	6B.2[2]	6B.3[2]	6D.1[2]	6D.2[2]	m	o	b_3	b_4	b_5	h_3	h_4	h_5
65-160/024	65	100	113	125	M10	160	145	111	170	170	493	393	12.5	100	156	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210	325	563	300	230	800	82
65-160/034	65	100	113	125	M10	160	145	111	170	170	493	393	12.5	100	156	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210	325	563	300	230	800	82
65-160/054.2	65	100	113	125	M10	200	162	120	170	170	531	431	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210	325	563	300	230	800	82
65-160/054.1	65	100	113	125	M10	200	162	120	170	170	531	431	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210	325	563	300	230	800	82
65-160/074.3	65	100	113	125	M10	200	162	120	170	170	531	431	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210	325	563	300	230	800	82
65-160/074.2	65	100	113	125	M10	200	162	120	170	170	531	431	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210	325	563	300	230	800	82
65-160/074.1	65	100	113	125	M10	200	162	120	170	170	531	431	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210	325	563	300	230	800	82
65-160/114.2	65	100	113	125	M10	200	190	128	170	170	558	458	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210	325	563	300	230	800	82
65-160/114.1	65	100	113	125	M10	200	190	128	170	170	558	458	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210	325	563	300	230	800	82
65-160/154	65	100	113	125	M10	200	190	128	170	170	584	484	12.5	100	176	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	210	325	563	300	230	800	82
65-250/154	65	105	167	190	M10	200	190	128	225	250	594	489	12.5	100	181	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	-	-	-	-	-	-
65-250/224.2	65	105	167	190	M10	250	213	135	225	250	647	542	12.5	100	195	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	-	-	-	-	-	-
65-250/224.1	65	105	167	190	M10	250	213	135	225	250	647	542	12.5	100	195	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	-	-	-	-	-	-
65-250/304.2	65	105	167	190	M10	250	213	135	225	250	682	577	12.5	100	195	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	-	-	-	-	-	-
65-250/304.1	65	105	167	190	M10	250	213	135	225	250	682	577	12.5	100	195	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	-	-	-	-	-	-
65-250/404	65	105	167	190	M10	250	234	148	225	250	671	566	12.5	100	195	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	-	-	-	-	-	-
80-160/054	80	97	113	135	M10	200	162	120	180	180	538	441	12.5	100	186	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	350	598	300	260	880	82
80-160/074.2	80	97	113	135	M10	200	162	120	180	180	538	441	12.5	100	186	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	350	598	300	260	880	82
80-160/074.1	80	97	113	135	M10	200	162	120	180	180	538	441	12.5	100	186	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	350	598	300	260	880	82
80-160/114.2	80	97	113	135	M10	200	190	128	180	180	565	468	12.5	100	186	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	350	598	300	260	880	82
80-160/114.1	80	97	113	135	M10	200	190	128	180	180	565	468	12.5	100	186	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	350	598	300	260	880	82
80-160/154	80	97	113	135	M10	200	190	128	180	180	591	494	12.5	100	186	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	350	598	300	260	880	82
80-210/154	80	151	140	160	M10	200	190	128	250	250	615	464	12.5	140	156	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	195	230	350	650	300	260	1020	82
80-210/224	80	151	140	160	M10	250	213	135	250	250	668	517	12.5	140	170	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	195	230	350	650	300	260	1020	82
80-210/304.2	80	151	140	160	M10	250	213	135	250	250	703	552	12.5	140	170	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	195	230	350	650	300	260	1020	82
80-210/304.1	80	151	140	160	M10	250	213	135	250	250	703	552	12.5	140	170	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	195	230	350	650	300	260	1020	82
80-210/404	80	151	140	160	M10	250	234	148	250	250	692	541	12.5	140	170	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	Rc 3/8	195	230	350	650	300	260	1020	82
80-250/224.2	80	114	165	184	M10	250	213	135	250	250	672	558	12.5	140	191	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	-	-	-	-	-	-
80-250/224.1	80	114	165	184	M10	250	213	135	250	250	672	558	12.5	140	191	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	-	-	-	-	-	-
80-250/304	80	114	165	184	M10	250	213	135	250	250	707	593	12.5	140	211	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	-	-	-	-	-	-
80-250/404	80	114	165	184	M10	250	234	148	250	250	696	582	12.5	140	211	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	-	-	-	-	-	-
80-250/554	80	114	165	184	M10	300	266	167	250	250	761	647	12.5	140	234	Rc 3/8	Rc 3/8	-	Rc 3/8	Rc 3/8	Rc 3/8	175	230	-	-	-	-	-	-

≈ x	Clearance for removal
1 M.1/.2	Pressure gauge connections
5 B	Ventilation - special design for vertical installation
6 B.1/.2/.3	Pumped liquid drain
6 D.1/.2	Pumped liquid venting

[1]) DN = EN 1092-2, PN 16
[2]) Rc = ISO 7/1

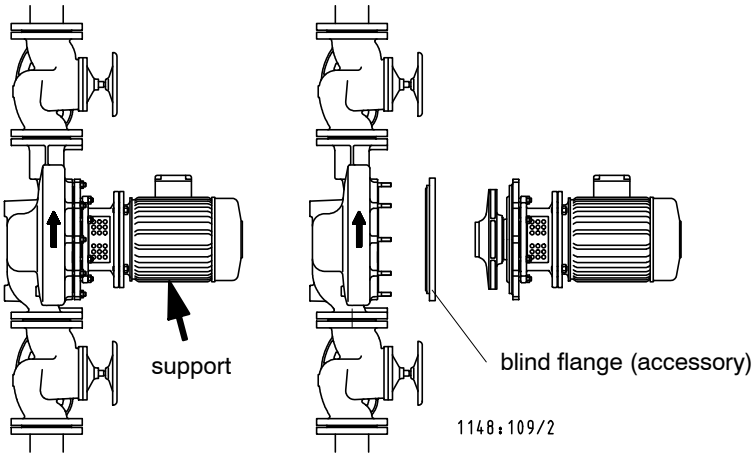
Pump sizes Etaline 32-160/... to 100-160/... are fixed by three steel angle feet.
Pump sizes Etaline 100-170/... to 200-315/... are fixed by cast iron pump foot (EN-GJL).

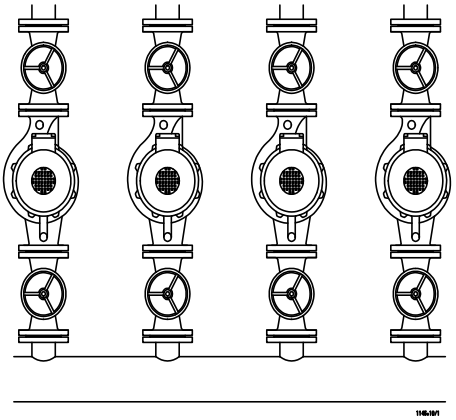
n ≈ 1450 rpm
Etaline GN, MN



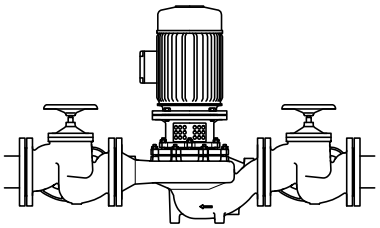
Tolerance of connecting dimensions as per EN 735

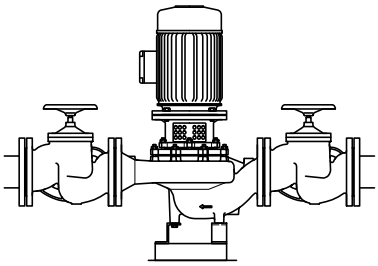
Etaline	DN[1]	a	≈ b_1	≈ b_2	d_1	d_2	d_3	p	h_1	h_2	≈l_1	≈l_2	t	≈x	w	1M.1/.2[2]	6B.1[2]	6B.2[2]	6B.3[2]	6D.1[2]	6D.2[2]	m	o	b_3	b_4	b_5	h_3	h_4	h_5
100-125/074	100	121	113	153	M10	200	162	120	230	220	541	420	12.5	100	165	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	195	230	325	591	300	295	1040	85
100-125/114	100	121	113	153	M10	200	190	128	230	220	568	447	12.5	100	165	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	195	230	325	591	300	295	1040	85
100-160/154	100	118	114	144	M10	200	190	128	250	200	599	481	12.5	100	173	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	195	230	325	583	300	295	1040	85
100-160/224	100	118	114	144	M10	250	213	135	250	200	652	534	12.5	100	187	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	195	230	325	583	300	295	1040	85
100-170/154	100	157	121	155	M20	200	190	128	245	205	641	484	25.0	100	176	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	-	-	325	601	300	295	1040	85
100-170/224.2	100	157	121	155	M20	250	213	135	245	205	694	537	25.0	100	190	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	-	-	325	601	300	295	1040	85
100-170/224.1	100	157	121	155	M20	250	213	135	245	205	694	537	25.0	100	190	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	-	-	325	601	300	295	1040	85
100-170/304	100	157	121	155	M20	250	213	135	245	205	729	572	25.0	100	190	Rc 1/2	Rc 1/2	-	Rc 1/2	Rc 1/2	Rc 1/2	-	-	325	601	300	295	1040	85
100-200/404.2	100	180	166	195	M20	250	234	148	305	245	741	561	25.0	140	190	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
100-200/404.1	100	180	166	195	M20	250	234	148	305	245	741	561	25.0	140	190	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
100-200/554	100	180	166	195	M20	300	266	167	305	245	806	626	25.0	140	213	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
100-250/554.2	100	158	191	212	M20	300	266	167	290	260	808	650	25.0	140	237	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
100-250/554.1	100	158	191	212	M20	300	266	167	290	260	808	650	25.0	140	237	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
100-250/754.3	100	158	191	212	M20	300	298	167	290	260	836	678	25.0	140	237	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
100-250/754.2	100	158	191	212	M20	300	298	167	290	260	836	678	25.0	140	237	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
100-250/754.1	100	158	191	212	M20	300	298	167	290	260	836	678	25.0	140	237	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
100-250/1104.2	100	158	191	212	M20	350	325	197	290	260	974	816	25.0	140	270	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
100-250/1104.1	100	158	191	212	M20	350	325	197	290	260	974	816	25.0	140	270	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
125-160/304	125	203	173	220	M20	250	213	135	340	280	775	572	25.0	140	190	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
125-160/404	125	203	173	220	M20	250	234	148	340	280	764	561	25.0	140	190	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
125-200/554	125	207	175	213	M20	300	266	167	340	280	833	626	25.0	140	213	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
125-200/754	125	207	175	213	M20	300	298	167	340	280	861	654	25.0	140	213	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
125-250/1104.2	125	212	183	215	M20	350	325	197	340	280	1004	792	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
125-250/1104.1	125	212	183	215	M20	350	325	197	340	280	1004	792	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
125-250/1504	125	212	183	215	M20	350	325	197	340	280	1010	798	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
150-200/754	150	226	185	235	M20	300	298	167	375	315	880	654	25.0	140	213	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
150-200/1104	150	226	185	235	M20	350	325	197	375	315	1018	792	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
150-250/1504.3	150	220	221	270	M20	350	325	197	370	330	1018	798	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
150-250/1504.2	150	220	221	270	M20	350	325	197	370	330	1018	798	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
150-250/1504.1	150	220	221	270	M20	350	325	197	370	330	1018	798	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
150-250/1854.2	150	220	221	270	M20	350	370	258	370	330	1076	856	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
150-250/1854.1	150	220	221	270	M20	350	370	258	370	330	1076	856	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
150-250/2204	150	220	221	270	M20	350	370	258	370	330	1076	856	25.0	140	246	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
200-250/1504	200	222	235	299	M20	350	325	197	400	400	1073	851	25.0	140	299	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
200-250/1854	200	222	235	299	M20	350	370	258	400	400	1131	909	25.0	140	299	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
200-250/2204.2	200	222	235	299	M20	350	370	258	400	400	1131	909	25.0	140	299	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
200-250/2204.1	200	222	235	299	M20	350	370	258	400	400	1131	909	25.0	140	299	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
200-250/3004	200	222	235	299	M20	400	422	305	400	400	1190	968	25.0	140	299	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
200-315/3004.2	200	225	255	313	M20	400	422	305	410	410	1212	987	25.0	140	318	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
200-315/3004.1	200	225	255	313	M20	400	422	305	410	410	1212	987	25.0	140	318	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
200-315/3704.2	200	225	255	313	M20	450	460	305	410	410	1268	1043	25.0	140	348	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
200-315/3704.1	200	225	255	313	M20	450	460	305	410	410	1268	1043	25.0	140	348	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
200-315/4504	200	225	255	313	M20	450	468	305	410	410	1298	1073	25.0	140	348	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-
200-315/5504	200	225	255	313	M20	550	520	427	410	410	1390	1165	25.0	140	348	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	Rc 1/2	-	-	-	-	-	-	-	-



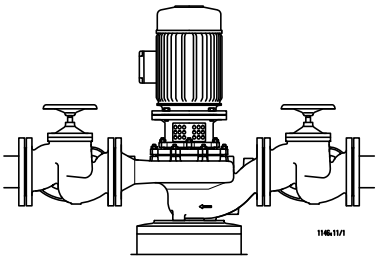


Motors of size 180 and above of Etaline units with horizontal motor axis need to be supported.
To this end, use the foot fixing holes on the motor housing.

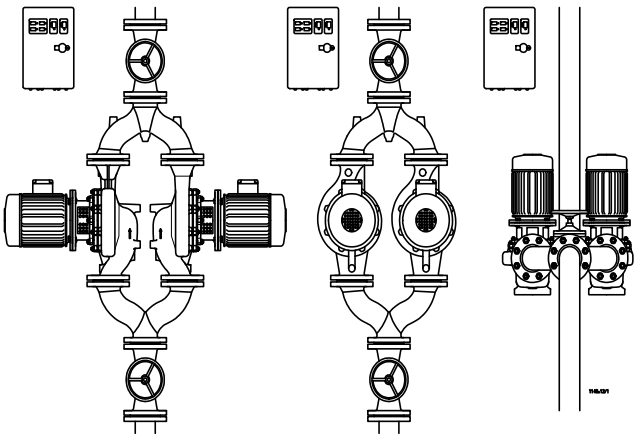




Pump sizes Etaline
32-160/.. to 100-160/..
are fixed by three angle feet

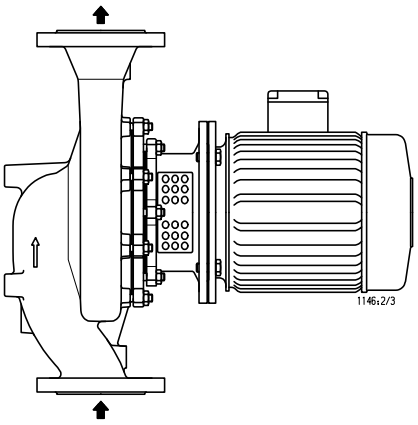


Pump sizes Etaline
100-170/.. to 200-315/..
are fixed by a pump foot made of EN-GJL

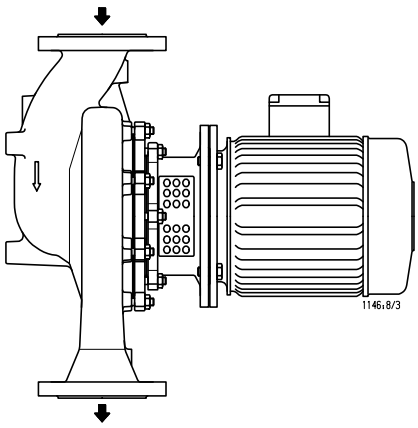


If expansion joints are used or if the pump set is installed with a pump foot, Etaline has to be fixed. The list of pump accessories includes appropriate fixing elements.
When dismantling the motor the volute casing may remain in the piping.

Horizontal installation, direction of flow from bottom to top

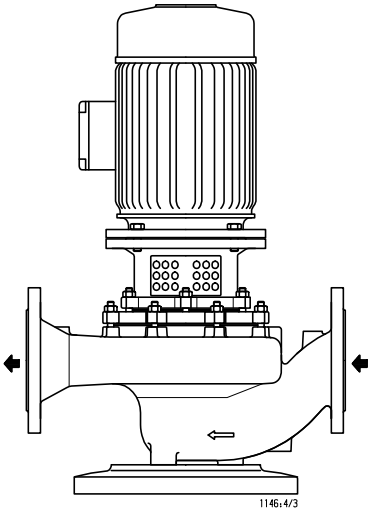


Horizontal installation; direction of flow from top to bottom. The pump casing/back pull-out unit must be turned by 180° so that the terminal box remains in its current position on the top.

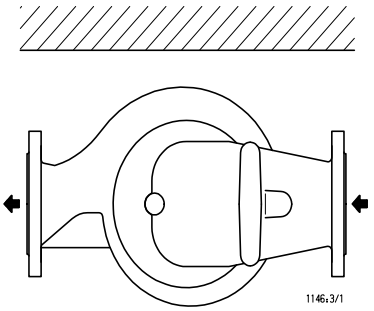


The pumps can be directly installed in the piping in any position, but not with the motor pointing downwards.

Vertical installation



Horizontal installation (for example under the ceiling)



Twin pumps must not be arranged in 'flow direction from top to bottom', since under certain operating conditions the change-over flap will not shut off completely, which might produce reverse flow in the second pump. In this case, change-over from the first to the second pump might cause damage.

Interchangeability of Etaline and Etabloc Components and Interchangeability of Components among Each Other

Etaline [1]	Shaft unit	Part designation: Volute casing	Discharge cover	Shaft (with taper lock ring)										Impeller	Mechanical seal	Casing wear ring suction side	Casing wear ring discharge side	Shaft sleeve	Etabloc
		Part No.: 102	163	210 Motor: 71	80	90	100/112	132	160	180	200	225	250	230	433	502.1	502.2	523	
32-160/...	25	○	1	1	2	3	4	□	□	□	□	◆	◆	1	1	1	1	1	32-160.1/...
32-200/...	25	○	12	□	2	3	4	5	□	□	□	◆	◆	○	1	1	1	1	32-200.1/...
40-160/...	25	○	1	1	2	3	4	□	□	□	□	◆	◆	1	1	1	1	1	32-160/...
40-250/...	25	○	2	□	2	3	4	5	6	□	□	◆	◆	○	1	1	2	1	32-250/...
50-160/...	25	○	1	1	2	3	4	5	□	□	□	◆	◆	○	1	2	1	1	40-160/...
50-250/...	25	○	2	□	□	3	4	5	6	7	□	◆	◆	○	1	2	2	1	40-250/...
65-160/...	25	○	1	1	2	3	4	5	6	□	□	◆	◆	○	1	3	1	1	50-160/...
65-250/...	25	○	2	□	□	3	4	5	6	7	16	◆	◆	○	1	3	2	1	50-250/...
80-160/...	25	○	11	□	2	3	4	5	6	□	□	◆	◆	2	1	4	3	1	65-160/...
80-210/...	25	○	9	□	□	3	4	□	6	7	16	◆	◆	○	1	4	3	1	65-200/...
80-250/...	35	○	7	◆	◆	◆	8	9	□	□	□	◆	◆	○	2	5	4	2	65-250/...
100-125/...	25	○	10	□	2	3	4	5	6	□	□	◆	◆	○	1	4	1	1	65-125/...
100-160/...	25	○	3	□	□	3	4	□	6	□	□	◆	◆	2	1	4	3	1	65-160/...
100-170/...	25	○	3	□	□	3	4	□	□	7	□	◆	◆	○	1	6	3	1	80-160/...
100-200/...	35	○	4	◆	◆	◆	8	9	□	□	□	◆	◆	○	2	6	5	2	80-200/...
100-250/...	35	○	5	◆	◆	◆	□	9	10	□	□	◆	◆	○	2	6	5	2	80-250/...
125-160/...	35	○	4	◆	◆	◆	8	□	□	11	□	◆	◆	○	2	7	5	2	100-160/...
125-200/...	35	○	4	◆	◆	◆	□	9	□	□	12	17	◆	○	2	7	5	2	100-200/...
125-250/...	35	○	5	◆	◆	◆	□	□	10	□	□	◆	◆	○	2	7	5	2	100-250/...
150-200/...	35	○	8	◆	◆	◆	□	9	10	□	□	◆	◆	○	2	8	6	2	125-200/...
150-250/...	35	○	6	◆	◆	◆	□	□	10	11	□	◆	◆	○	2	8	6	2	125-250/...
200-250/...	35	○	13	◆	◆	◆	□	□	10	11	12	◆	◆	○	2	9	6	2	150-250/...
200-315/...	55	○	14	◆	◆	◆	◆	◆	◆	◆	13	14	15	○	3	9	7	3	150-315/...

1 / 1	Same number means same component
○	Components differ
□	In case of other frequencies and/or power reserves for this pump/motor combination please contact the manufacturer.
◆	This pump/motor combination is not possible
	Components interchangeable with those of Etabloc

[1] Except for the volute casing, the pump components of single and twin Etaline pumps are identical.

Motor	Rating
71	.../024, .../034
80	.../054, .../074, .../072, .../112
90	.../114, .../154, .../152, .../222
100	.../224, .../304, .../302
112	.../404, .../402
132	.../554, .../754, .../552, .../752
160	.../1104, .../1504, .../1102, .../1502, .../1852
180	.../1854, .../2204, .../2202
200	.../3004, .../3002, .../3702
225	.../3704, .../4504, .../4502
250	.../5504

Pump Accessories

						≈ kg
	Pump foot for vertical installation					
	Etaline 32-160/... to 100-160/... [1])				47 077 960	2.0
	Etaline 100-170/... to 200-315/...				47 086 291	14.0
	**Y-pipes for twin pumps**	PN 16	DN 40	suction side	40 000 688	12.0
	consisting of:		DN 40	discharge side	40 000 679	13.0
	suction-side Y-pipe without		DN 50	suction side	40 000 689	15.0
	change-over flap,		DN 50	discharge side	40 000 680	17.0
	discharge-side Y-pipe with		DN 65	suction side	40 000 690	19.0
	change-over flap,		DN 65	discharge side	40 000 681	20.0
	bolts, nuts and seal elements		DN 80	suction side	48 936 065	25.0
			DN 80	discharge side	48 936 202	28.0
			DN 100	suction side	40 000 692	33.0
			DN 100	discharge side	40 000 440	35.0

[1]) 3 pump feet with bolts

Electric Accessories

			Setting range in A min – max	Back-up fuse		≈ kg
E 1 	**Switchgear MSD,** IP 54,	**MSD 10.1**	0.54 – 0.8	4 A	19 070 113	1.0
	with manual-0-automatic selector switch,	**MSD 12.1**	0.8 – 1.2	4 A	19 071 255	1.0
	motor contactor with overcurrent relay.	**MSD 16.1**	1.2 – 1.8	4 A	19 070 114	1.0
	Operation and fault indicator lamps.	**MSD 25.1**	1.8 – 2.6	6 A	19 070 115	1.0
		MSD 40.1	2.6 – 3.7	10 A	19 070 116	1.0
		MSD 60.1	3.7 – 5.5	16 A	19 070 117	1.0
		MSD 80.1	5.5 – 8.0	20 A	19 070 118	1.0
	100 x 170 x 85 mm	**MSD 100.1**	8.0 –11.5	20 A	19 070 119	1.0
E 11 	**Control unit for single-pump stations, IP 54**	**BC1 400** DFNO **010**	0.63 – 1.0	25 A	19 074 369	3.0
	LevelControl Basic 2	**BC1 400** DFNO **016**	1.0 – 1.6	25 A	19 073 761	3.0
	Direct starting	**BC1 400** DFNO **025**	1.6 – 2.5	25 A	19 073 762	3.0
	with manual-0-automatic selector switch	**BC1 400** DFNO **040**	2.5 – 4.0	25 A	19 073 763	3.0
	indicator lamps and control panel	**BC1 400** DFNO **063**	4.0 – 6.3	25 A	19 073 764	3.0
	high water alert	**BC1 400** DFNO **100**	6.3 –10.0	25 A	19 073 765	3.0
	integrated alarm buzzer, 85 dB(A)					
	operating hours counter/switching cycles per pump					
	voltage measurement, phase monitoring					
	volt-free contact for general fault message.					
	230 V variant: with external socket					
	optional: master switch					
	optional: rechargeable battery for mains-independent alarm					
	Dimensions (H x W x D)					
	400 x 278 x 120 mm					
	for float switches					
	including 4…20 mA input					
E12 	**Control unit for single-pump stations, IP 54**	**BS1 400** SFNO **140**	9 – 14	25 A	19 073 794	10.0
	LevelControl Basic 2	**BS1 400** SFNO **180**	13 – 18	25 A	19 073 795	14.0
	Star-delta starting	**BS1 400** SFNO **230**	17 – 23	25 A	19 073 796	14.0
	with manual-0-automatic selector switch	**BS1 400** SFNO **250**	20 – 25	35 A	19 073 797	14.0
	indicator lamps and control panel	**BS1 400** SFNO **400**	25 – 40	50 A	19 073 798	18.0
	high water alert	**BS1 400** SFNO **630**	40 – 63	80 A	19 073 799	18.0
	integrated alarm buzzer, 85 dB(A)					
	operating hours counter/switching cycles per pump					
	voltage measurement, phase monitoring					
	volt-free contact for general fault message.					
	optional: master switch					
	optional: rechargeable battery for mains-independent alarm					
	Dimensions (H x W x D)					
	400 x 300 x 155 mm					
	for float switches					
	including 4…20 mA input					

Electric Accessories

			Setting range in A min – max	Back-up fuse		≈ kg
	**Switchgear DDU,** IP 54 with pump changeover via timer, fault changeover, external changeover, external starting in case of peak load, external release, thermal circuit-breaker connection, separate 230 V output, with one motor protection switch each (may be locked in 'Off' position), manual-0-automatic selector switch with motor contactor and thermistor tripping device. Lamps indicating operation and fault for each pump. Volt-free contacts for operation and fault indication for each pump. Connections on terminal strip. 600 x 400 x 200 mm	**DDU 10.1** **DDU 16.1** **DDU 25.1** **DDU 40.1** **DDU 60.1** **DDU 100.1**	0.63 – 1.0 1.0 – 1.6 1.6 – 2.5 2.5 – 4.0 4.0 – 6.3 6.3 –10.0		19 070 267 19 070 268 19 070 269 19 070 270 19 070 271 19 070 272	18.0 18.0 18.0 18.0 18.0 18.0
	**Switchgear DSU,** IP 54 with pump changeover via timer, fault changeover, external changeover, external starting in case of peak load, external release, thermal circuit-breaker connection, separate 230 V output, with one motor protection switch each (may be locked in 'Off' position), manual-0-automatic selector switch with star-delta starting and thermistor tripping device. Lamps indicating operation and fault for each pump. Volt-free contacts for operation and fault indication for each pump. Connections on terminal strip. 600 x 400 x 200 mm 800 x 600 x 200 mm for DSU 400.1/630.1	**DSU 140.1** **DSU 160.1** **DSU 200.1** **DSU 250.1** **DSU 400.1** **DSU 630.1**	9 – 14 13 – 18 17 – 23 20 – 25 25 – 40 40 – 63	50 A 50 A 50 A 63 A 100 A 160 A	19 071 258 19 070 273 19 070 274 19 070 275 19 070 722 19 070 723	20.0 20.0 20.0 20.0 36.0 36.0
LevelControl Basic 2 installation options						
E 90	**Rechargeable battery retrofit kit for type BC** for powering the electronics, float switches or the internal pressure sensor and the alarm equipment (buzzer, horn) for single-pump and dual-pump stations 2 x 6 V, 1.3 Ah				19 074 194	0.5
E 91	**Rechargeable battery retrofit kit for type BS** for powering the electronics, float switches or the internal pressure sensor and the alarm equipment (buzzer, horn) for single-pump and dual-pump stations 1 x 12 V, 1.2 Ah				19 074 199	0.5
O 1	**Master switch,** installed for BC type 3-pole, 20 A, lockable				01 143 084	0.15

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