

General

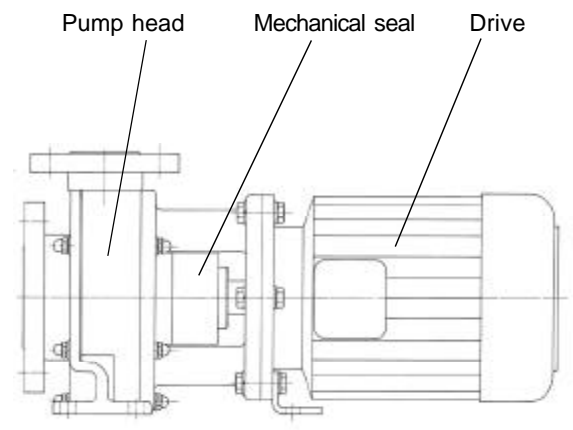
Pump

BN-type motor pump units are normal-priming, single-stage, plastic centrifugal pumps in block design with horizontal axis. Their dimensions and flow rates mainly correspond to DIN/EN 22858.

The pumps of this series were developed to meet the requirements of the chemical industry and are therefore especially suited to pump pure or solid matter containing, acid or alkaline, low-viscosity liquids.

As the materials getting in contact with the pumped medium are physiologically harmless, the pumps can also be used in the food industry.

The extended shaft of the drive motors directly carries the impeller. The pump head is flanged to the drive motor using an intermediate piece.



Pump head, impeller

All wetted-end parts are made of high-quality materials such as PP, PVDF, hard carbon, EPDM or FPM elastomers. The external metallic parts are protected against corrosion by a chemically resistant varnish coat. For all pump sizes, closed impellers with relief borings for compensation of the axial thrust are used. The transmission of the torque is form-locking.



Position of connections, flanges

The suction connection is positioned axially, the pressure flange radially in upward direction. As a standard the suction and pressure connections are fitted with flanges according to DIN 2501/PN 10.

Shaft seals

The shafts are sealed by means of maintenance-free mechanical seals. Depending on the operating conditions, internal, single-acting or double-acting versions are used. Double-acting mechanical seals require a sealing liquid.

Sliding materials in silicon carbide (SiC), bellows and secondary seals of EPDM or FPM, metallic parts of stainless steel (1.4571) or Hastelloy C-4 (2.4610) are standard combinations and cover a large range of applications.

The space available in the sealing area allows to use standard seals.

Special versions on request.

Drive

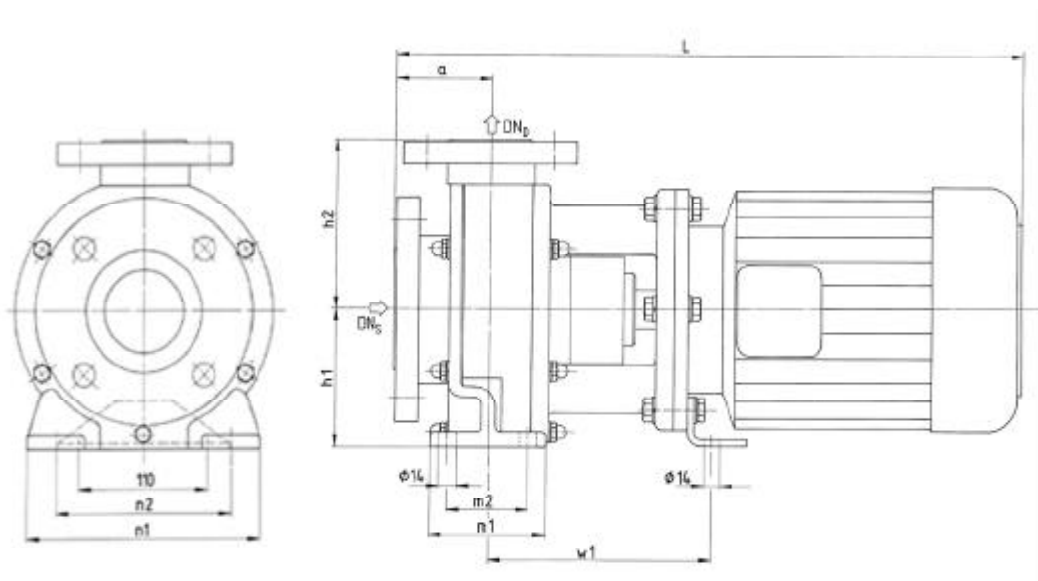
Surface-cooled three-phase motors with extended rotor shaft and reinforced bearing, otherwise according to IEC standard, 1450min-1 or 2900min-1, enclosure IP 55, insulation class F, mounting IM B5.

Nominal pump capacities according to DIN/EN 22 858

Pump size BN ...	Output at 1450 min-1		Output at 2900 min-1	
	Nominal flow rate [m³/h]	Nominal head [m]	Nominal flow rate [m³/h]	Nominal head [m]
50-32-125	6.3	5	12.5	20
50-32-160		8		32
50-32-200		12.5		50
65-40-125	12.5	5	25	20
65-40-160		8		32
65-40-200		12.5		50
80-50-125	25	5	50	20
80-50-160		8		32
80-50-200		12.5		---
100-65-125	50	5	100	20
100-65-160		8		---

Dimensions

Pump

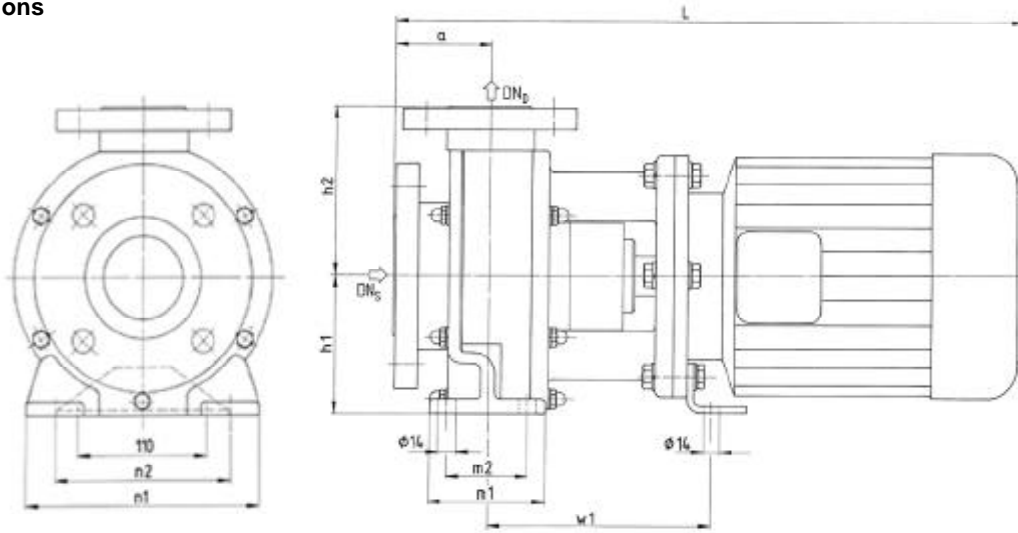

Chemical Motor Pump Unit BN

Chemical Motor Pump Unit BN

Pump size BN ...	Power in kW at		Motor size	L	Approx. weight kg (PP)	
	1450min-1	2900min-1			1450min-1	2900min-1
50-32-125	1,1	1,5	90S	490	28	32
	-	2,2	90L	510	-	34
	-	3	100L	550	-	41
	-	4	112	560	-	61
50-32-160	1,1	1,5	90S	500	37	37
	1,5	2,2	90L	520	39	39
	-	3	100L	560	-	46
	-	4	112	570	-	52
	-	5,5+7,5+11	132	640	-	79/85/85
50-32-200	1,1	-	90S	500	44	-
	1,5	2,2	90L	520	46	46
	2,2	3	100	560	50	53
	-	4	112	570	-	73
	-	5,5+7,5+11	132	640	-	86/92/92
65-40-125	1,1	-	90S	490	33	-
	1,5	2,2	90L	510	35	35
	-	3	100	550	-	42
	-	4	112	560	-	62
65-40-160	1,1	-	90S	500	38	-
	1,5	2,2	90L	520	40	40
	2,2	3	100	560	47	47
	-	4	112	570	-	67
	-	5,5+7,5+11	132	640	-	80/86/86
65-40-200	1,1	-	90S	520	38	-
	1,5	2,2	90L	540	50	50
	2,2	3	100	580	57	57
	-	4	112	590	-	77
	-	5,5+7,5+11	132	660	-	90/96/96
80-50-125	1,5	2,2	90L	540	36	36
	2,2	3	100	580	43	43
	-	4	112	590	-	63
	-	5,5+7,5+11	132	660	-	76/82/82
80-50-160	1,5	-	90L	540	41	-
	2,2	-	100	580	48	-
	3	-	100	580	52	-
	-	5,5+7,5+11	132	660	-	81/87/87
80-50-200	1,5	-	90L	540	54	-
	2,2 + 3	-	100	580	61/63	-
	4	-	112	590	81	-
	5,5	-	132	660	100	-
100-65-125	1,5	-	90L	560	42	-
	2,2 + 3	-	100	590	49/51	-
	4	-	112	610	69	-
	-	5,5+7,5+11	132	680	-	74/80/80
100-65-160	1,5	-	90L	560	47	-
	2,2 + 3	-	100	590	54/56	-
	4	-	112	610	74	-

Dimensions

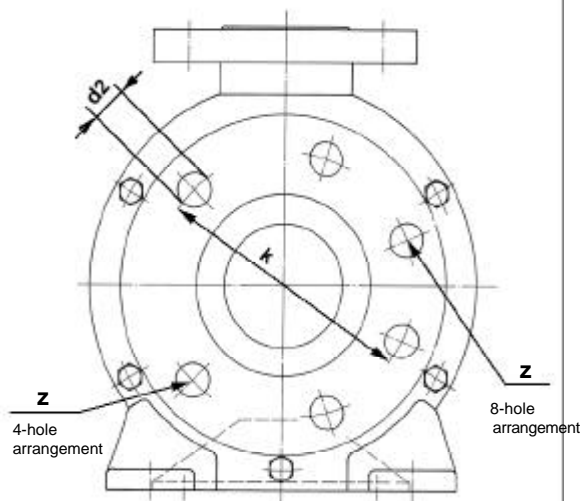
Pump



Pump size BN ...	Flange connection dimensions according to DIN 2501, Part1 f. PN10		Pump dimensions							
	DN _s Inlet	DN _b Outlet	a	h1	h2	m1	m2	n1	n2	w1
50-32-125	50	32	80	112	140	100	70	190	140	190
50-32-160			80	132	160	100	70	240	190	220
50-32-200			80	160	180	100	70	240	190	220
65-40-125	65	40	80	112	140	100	70	210	160	190
65-40-160			80	132	160	100	70	240	190	220
65-40-200			100	160	180	100	70	265	212	220
80-50-125	80	50	100	132	160	100	70	240	190	220
80-50-160			100	160	180	100	70	265	212	220
80-50-200			100	160	200	100	70	265	212	220
100-65-125	100	65	100	160	180	125	95	280	212	220
100-65-160			100	160	200	125	95	280	212	220

Flanges

Flanges according to DIN 2501			
DN	k	d2	z
32	100	18	4
40	110	18	4
50	125	18	4
65	145	18	4
80	160	18	8
100	180	18	8



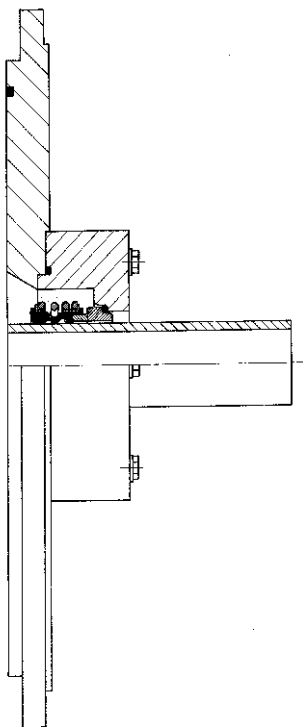
Mechanical seals

General

Mechanical seals basically consist of two perfectly plane surfaces. One surface rotates with the shaft, while the other one is stationary. The sealing effect is achieved by the direct contact between the two plane surfaces. The stationary counter-ring is normally fixed in position. The sliding ring is able to move axially and radially in

order to compensate the shaft deflections during operation. This axial mobility enables mechanical seals to be fitted within practicable manufacturing tolerances, the accuracy required being dependent on the design of the seal.

Type B2I

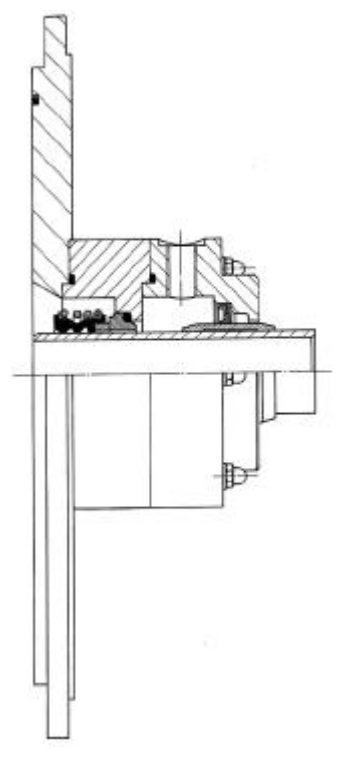


Single-acting, loaded, internal seal, independent of direction of rotation.

Combination of sliding materials in silicon carbide (SiC). Bellows and secondary seals of EPDM and FPM. Metallic parts of stainless steel or Hastelloy C-4.

Suitable for application with neutral and aggressive media which do not crystallize out and are free from solid matter.

Type B2Q



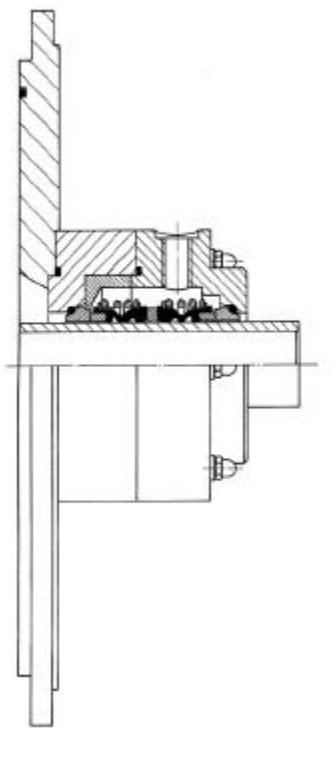
Single-acting, loaded, internal seal, independent of direction of rotation, with quenching chamber. The quenching chamber is sealed from the atmosphere by a shaft sealing ring to prevent deposits and/or reduction of the temperature in the area of the mechanical seal.

Combination of sliding materials in silicon carbide (SiC). Bellows and secondary seals of EPDM and FPM. Metallic parts of stainless steel or Hastelloy C-4.

Suitable for application with aggressive media tending to crystallize out.

Function of quenching:

- Prevention of crystallizing rings (air seals)
- Absorption of leakage
- Cooling of sliding rings
- Monitoring of leakage rate
- Lubricating film stabilization during vacuum operation

Type B2D

Double-acting, loaded, internal seal, independent of direction of rotation, arranged back-to-back with sealing chamber. This arrangement is the most usual form of double-acting seals used for difficult, chemically particularly aggressive media.

Combination of sliding materials in silicon carbide (SiC). Bellows and secondary seals of EPDM and FPM. Metallic parts of stainless steel.

Suitable for application with aggressive and abrasive media.

Function of sealing:

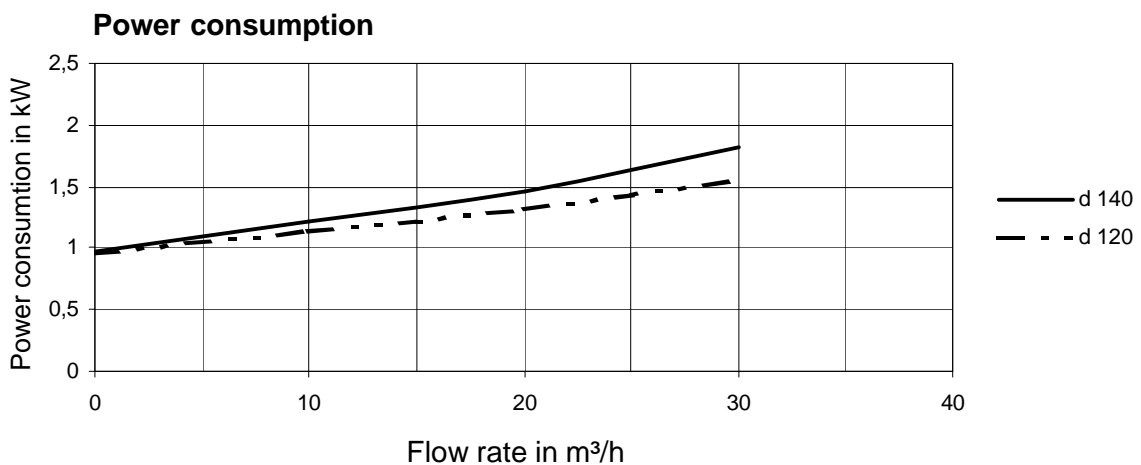
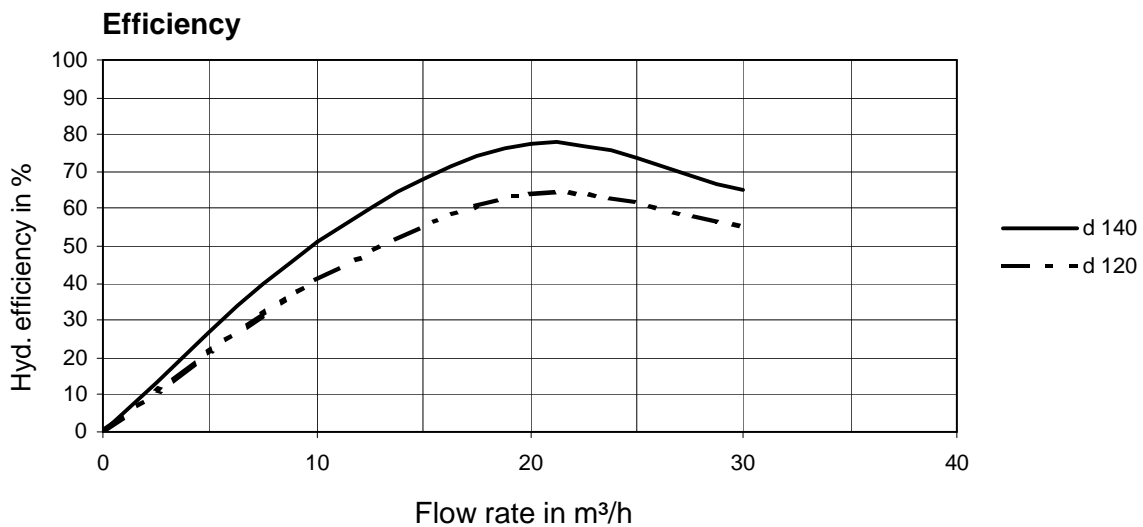
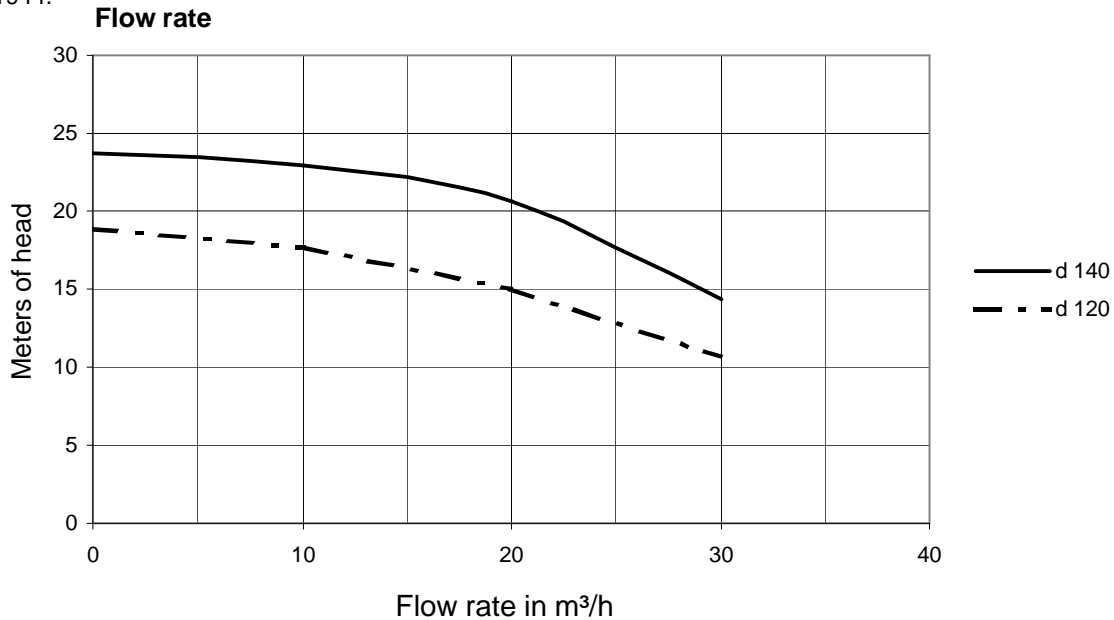
- Prevention of contact between pumped liquid and atmosphere
- Formation of lubricating film between the sliding rings
- Cooling of sliding rings
- Monitoring of leakage rate

Performance curves

The following diagrams show the Q-H curves in dependence of the impeller diameter as well as the power consumption in kW, the efficiency and the NPSH value (only for nominal speed of 2900 min⁻¹). Flow rate and efficiency guarantees according to DIN 1944.

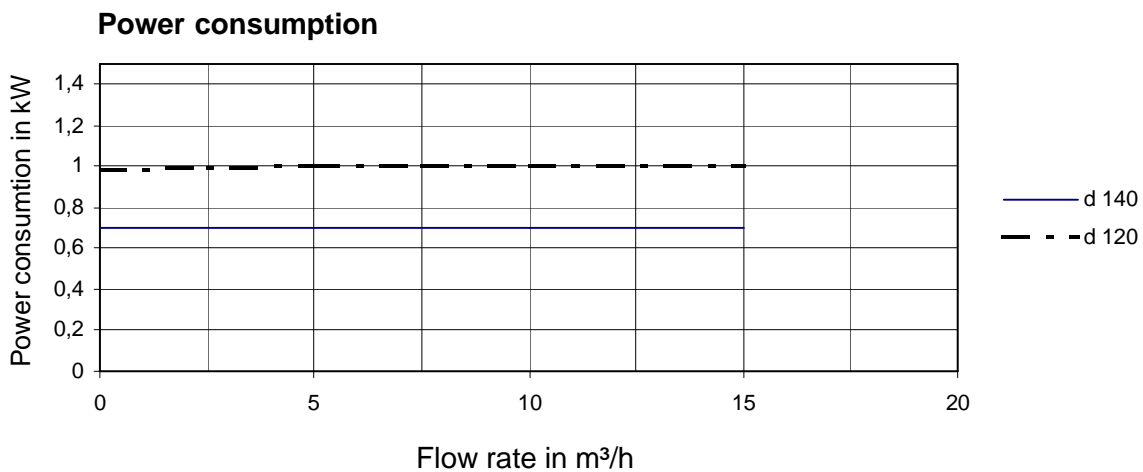
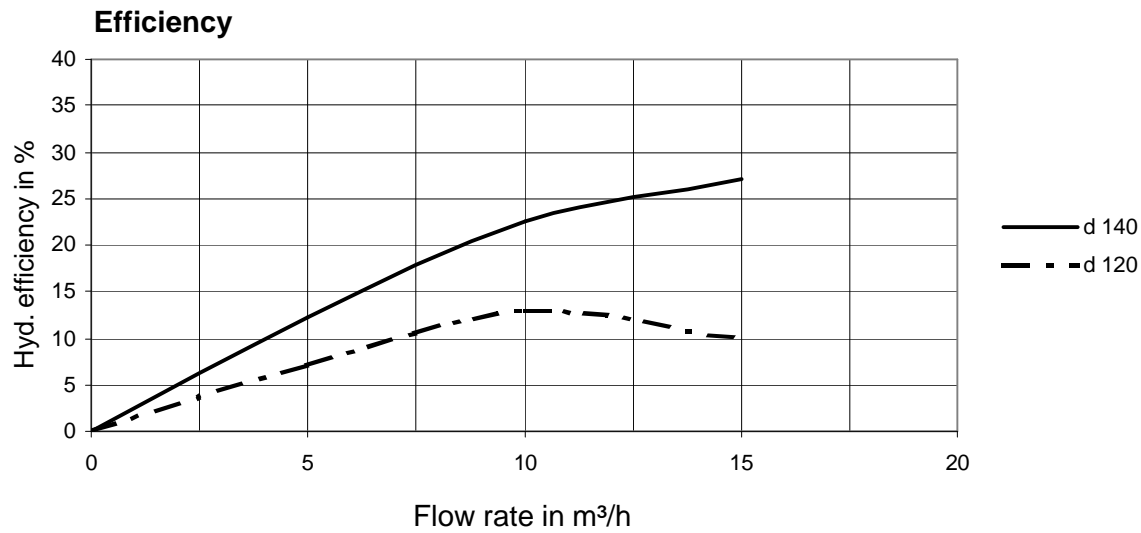
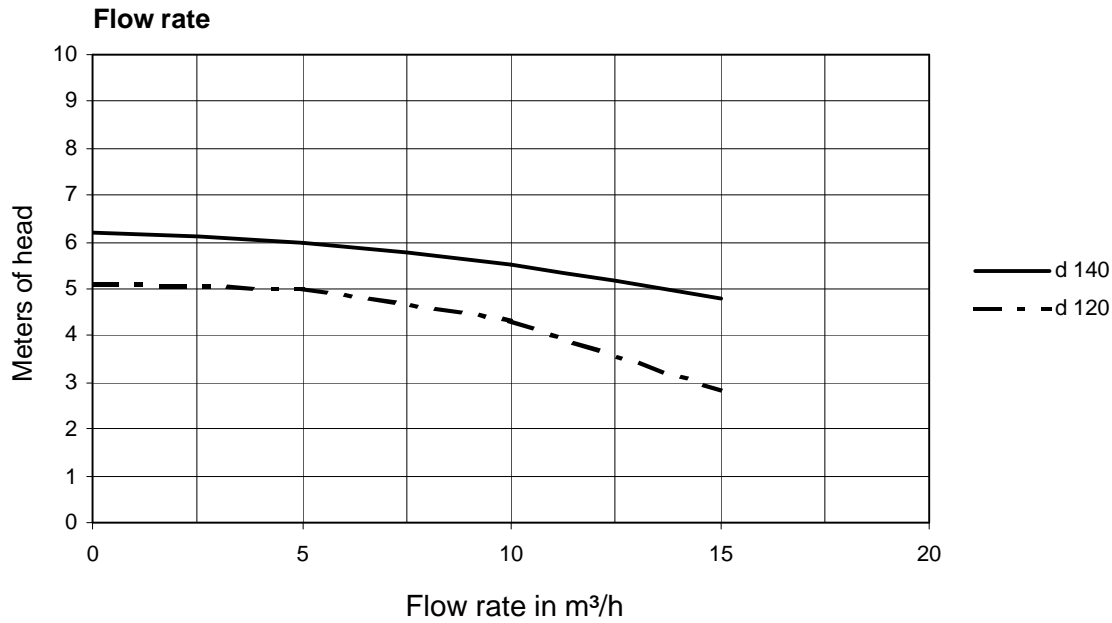
Type BN 50 - 32 - 125

Motor kW: 2.2
Speed: 2900



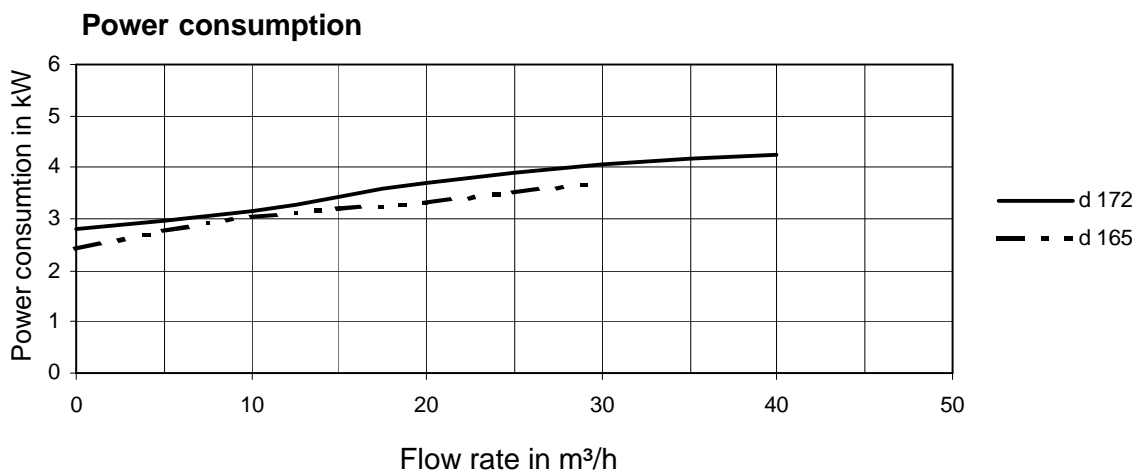
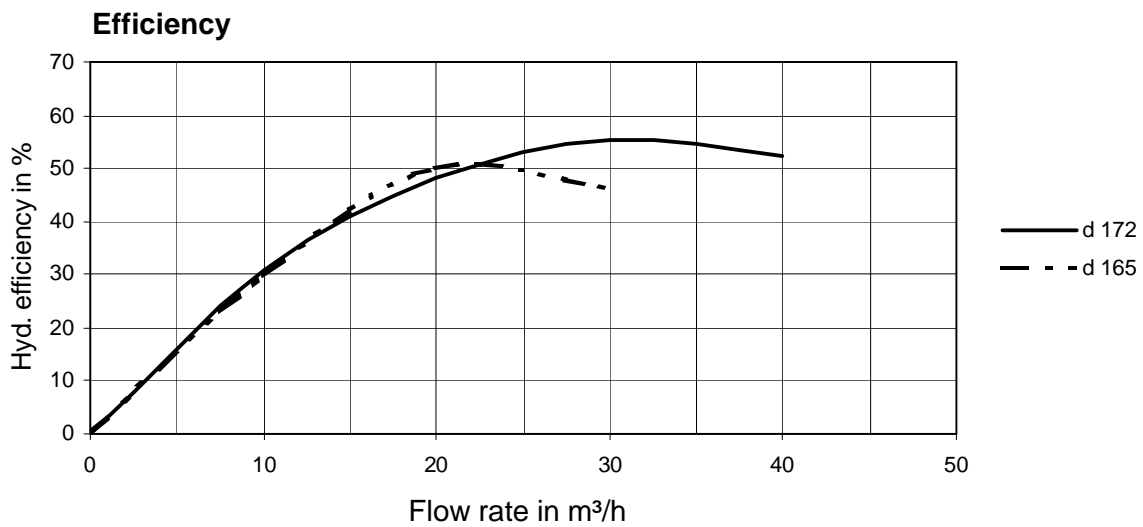
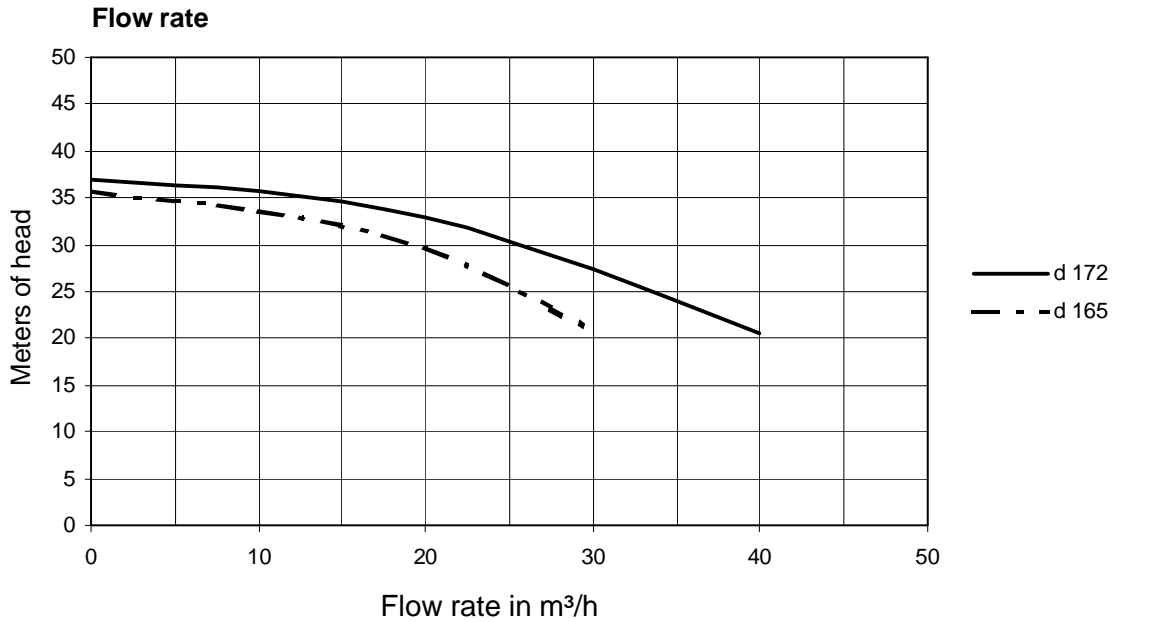
Type BN 50 - 32 - 125

Motor kW: 1.1
Speed: 1450



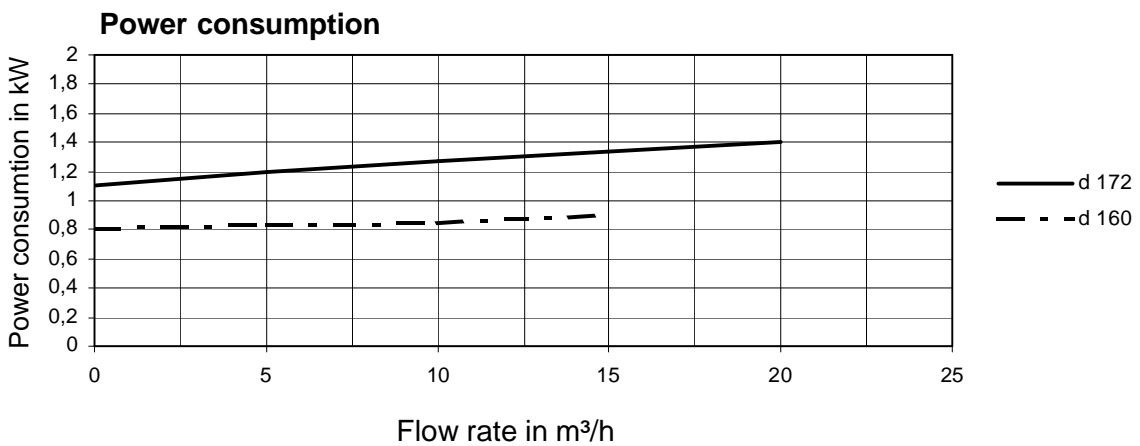
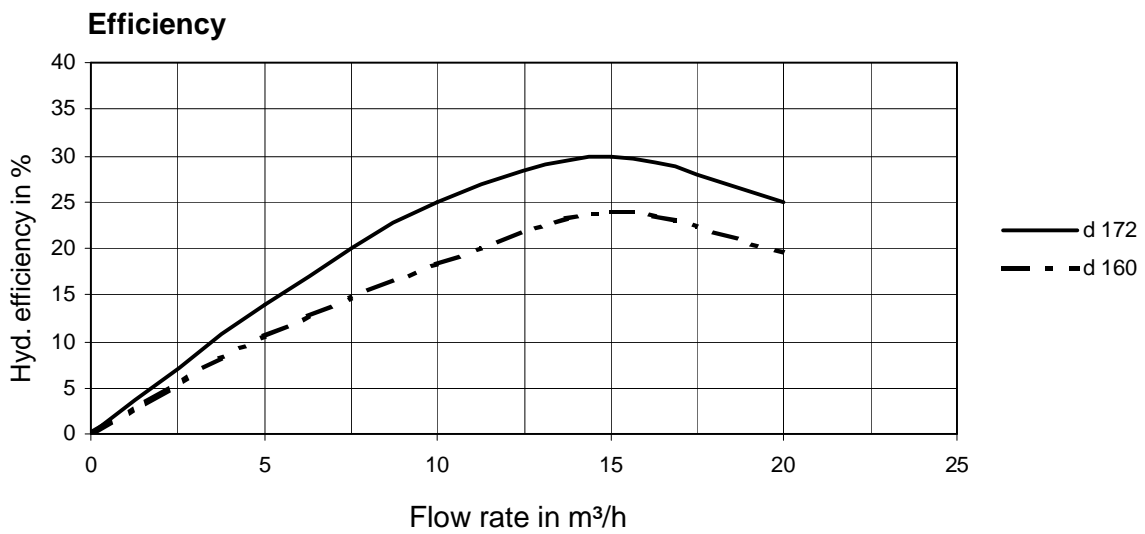
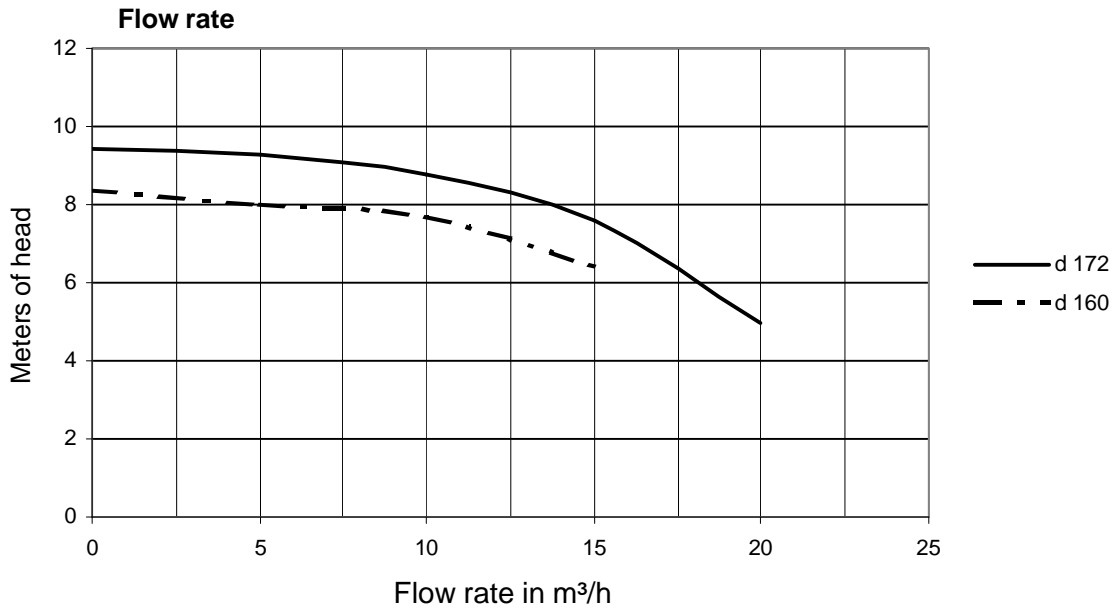
Type BN 50 - 32 - 160

Motor kW: 4
Speed: 2900



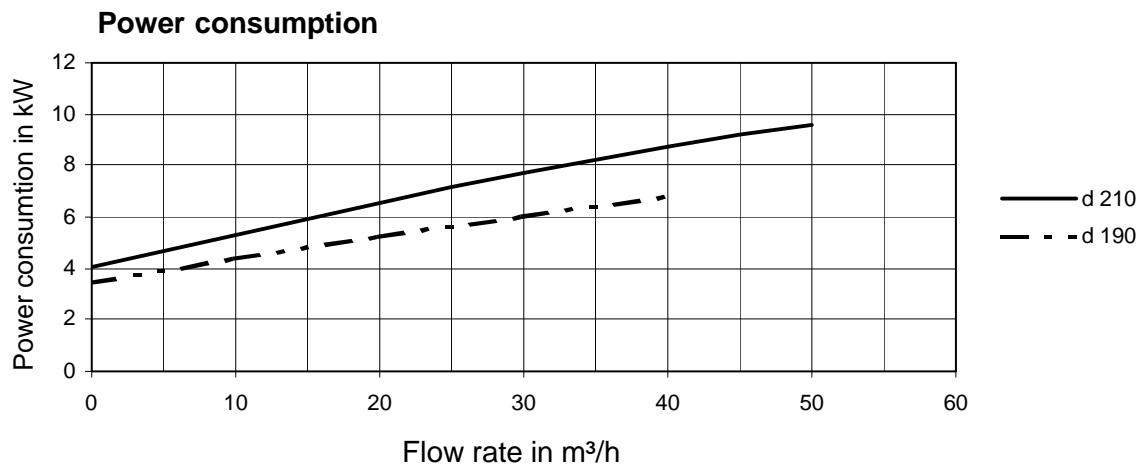
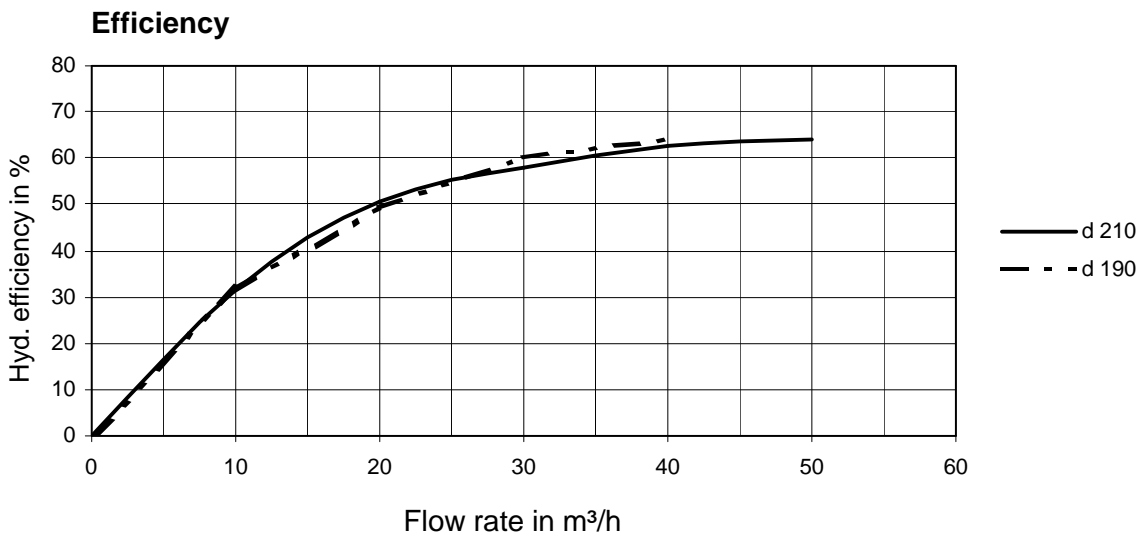
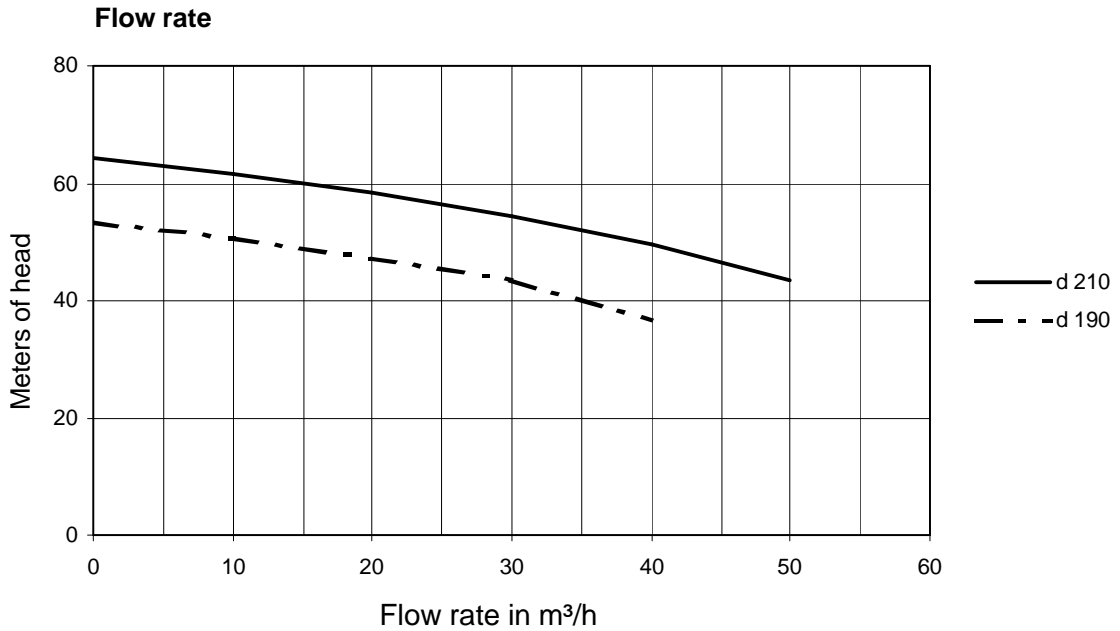
Type BN 50 - 32 - 160

Motor kW: 1.5
Speed: 1450



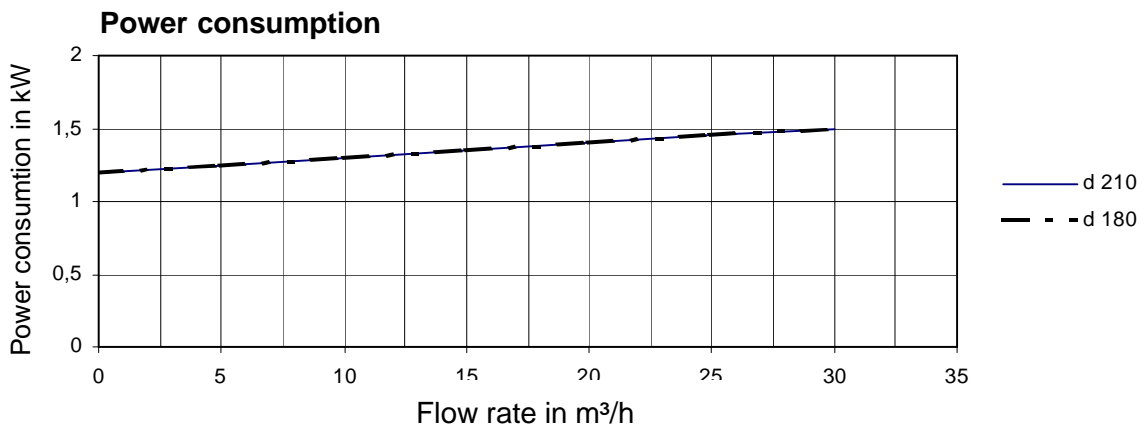
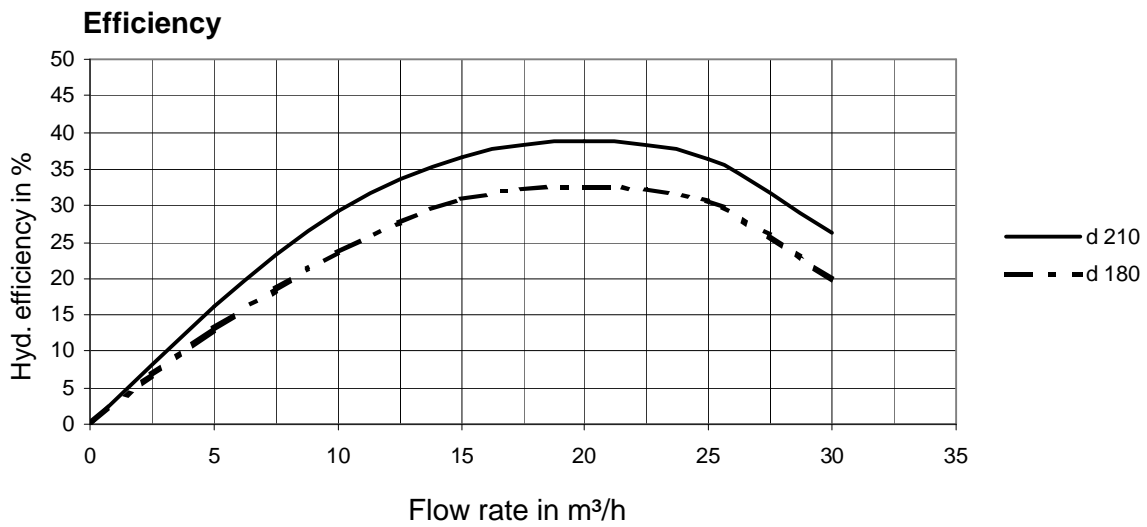
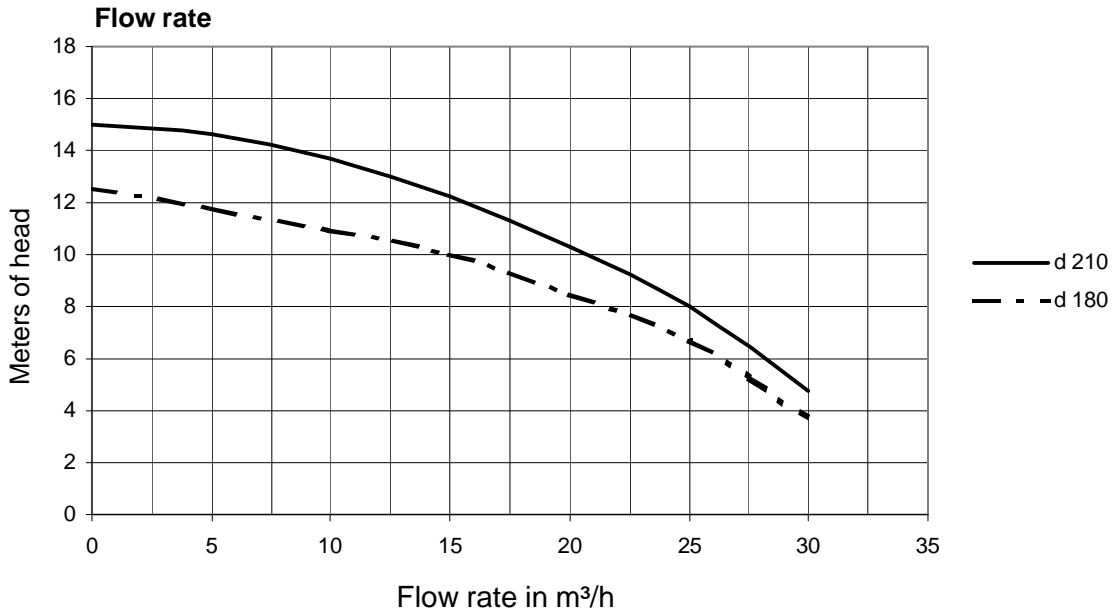
Type BN 50 - 32 - 200

Motor kW: 7.5
Speed: 2900



Type BN 50 - 32 - 200

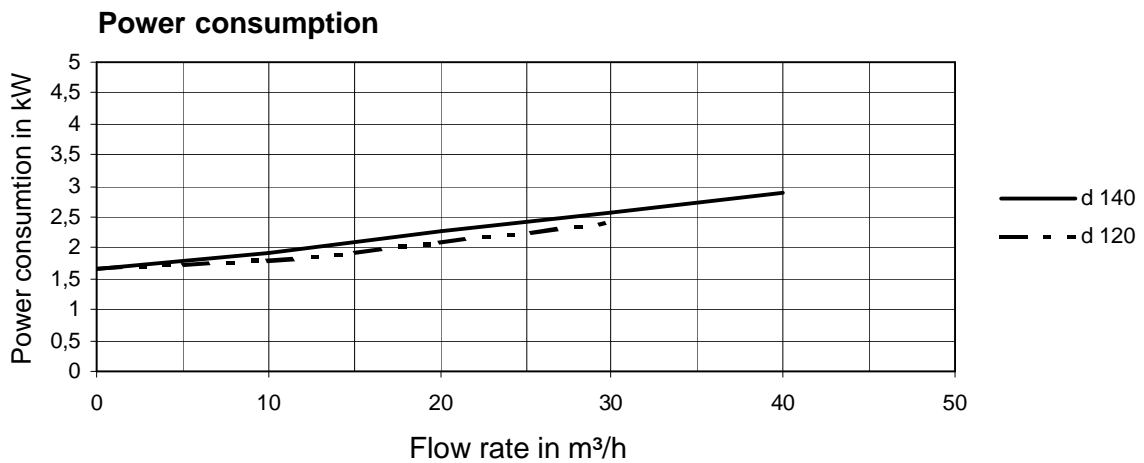
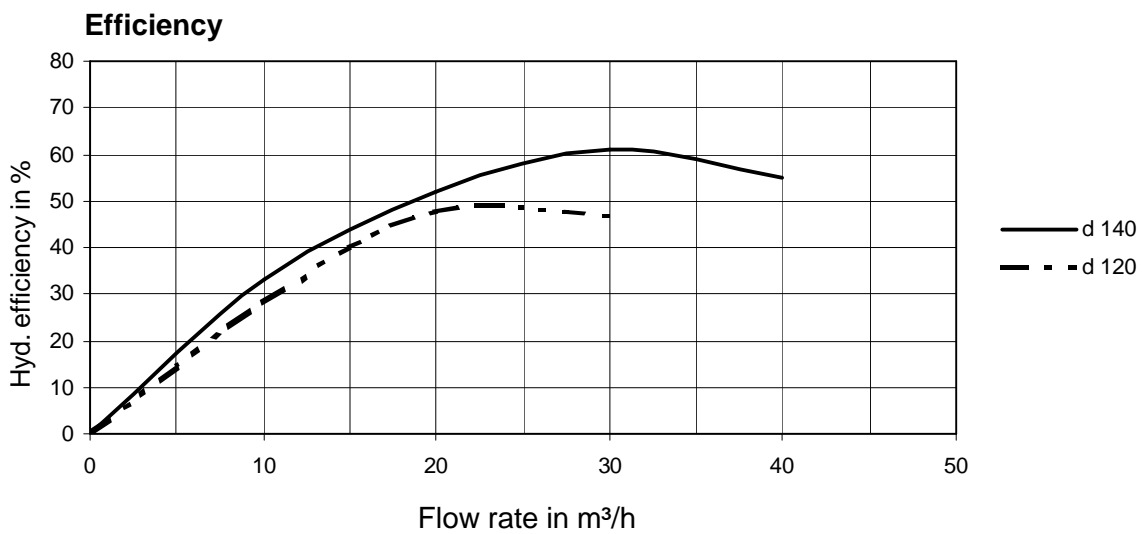
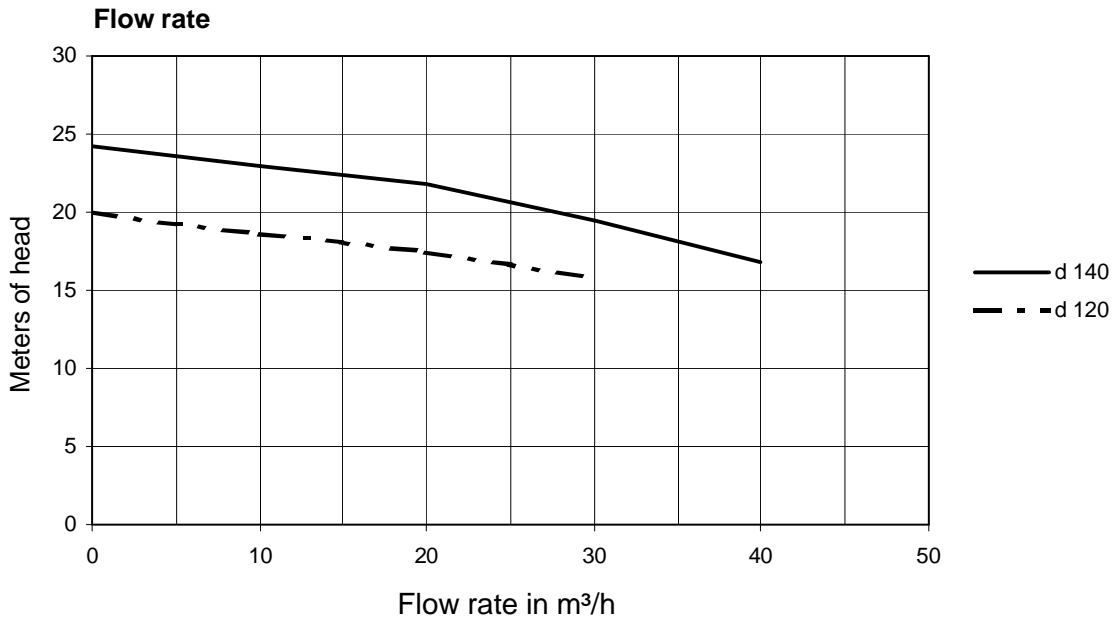
Motor kW: 1.5
Speed: 1450



Type BN 65 - 40 - 125

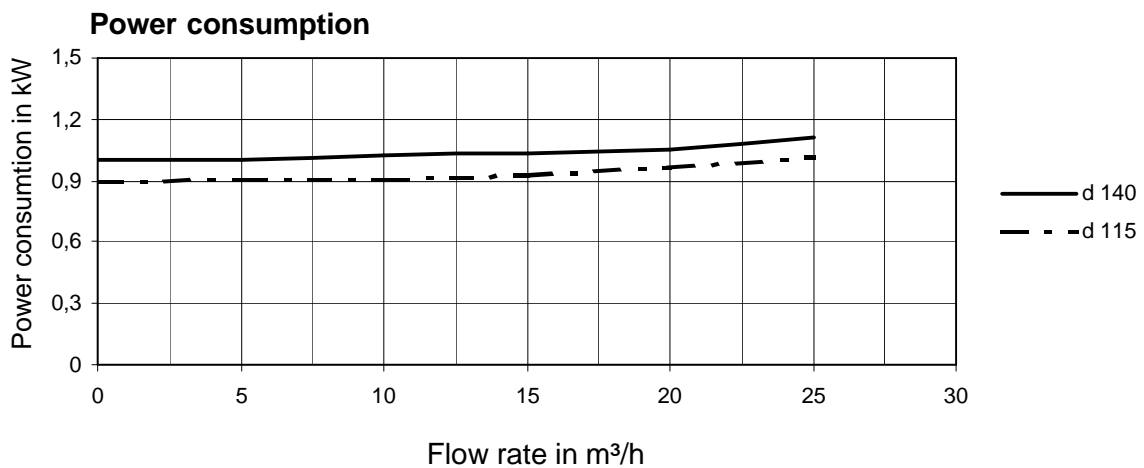
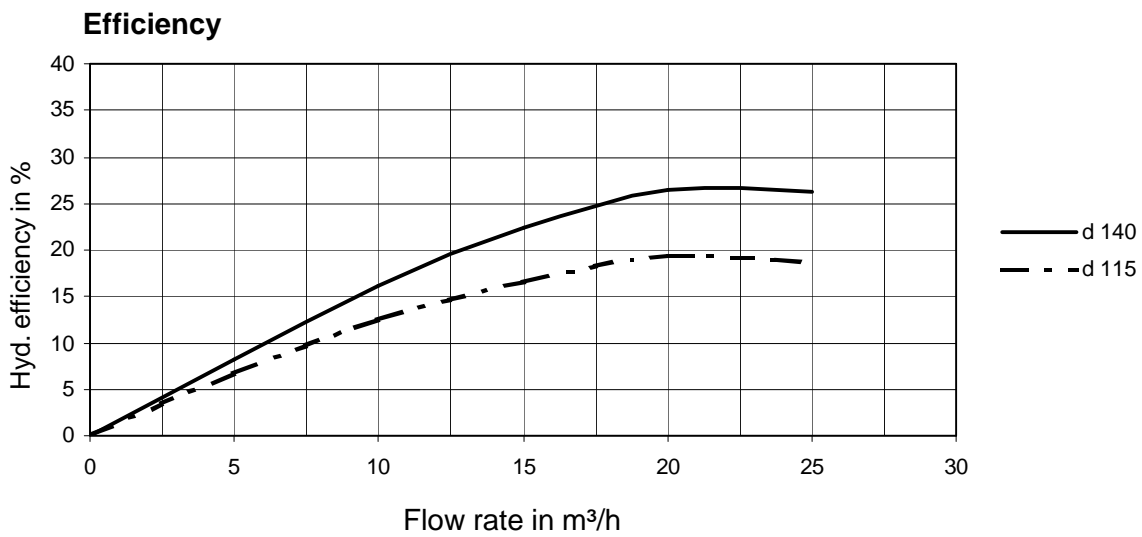
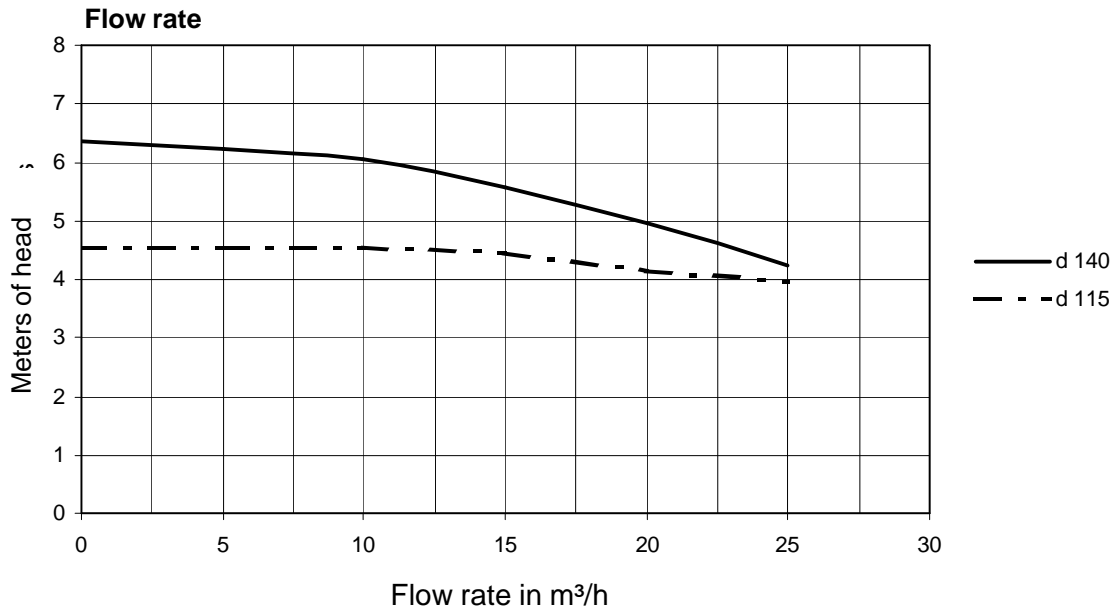
Motor kW: 3
Speed: 2900

Chemical Motor Pump Unit BN



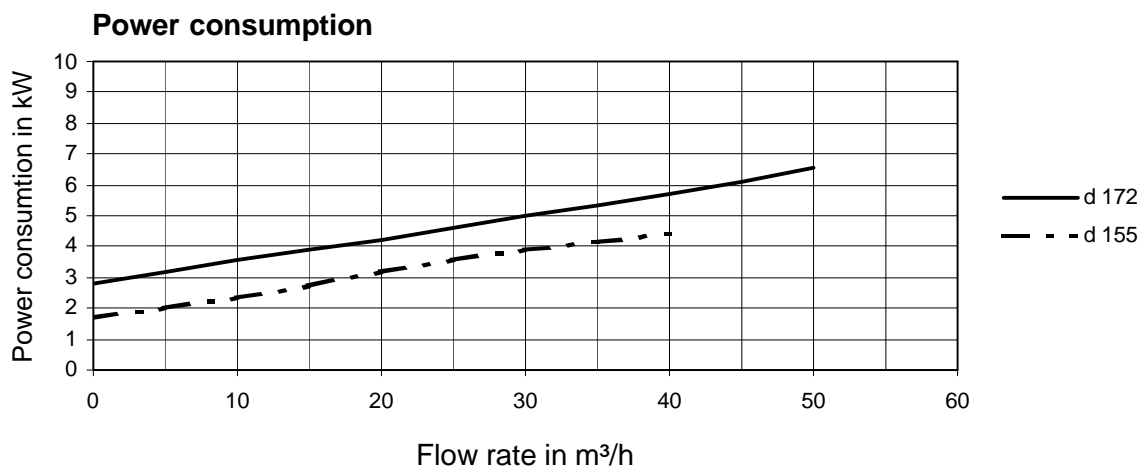
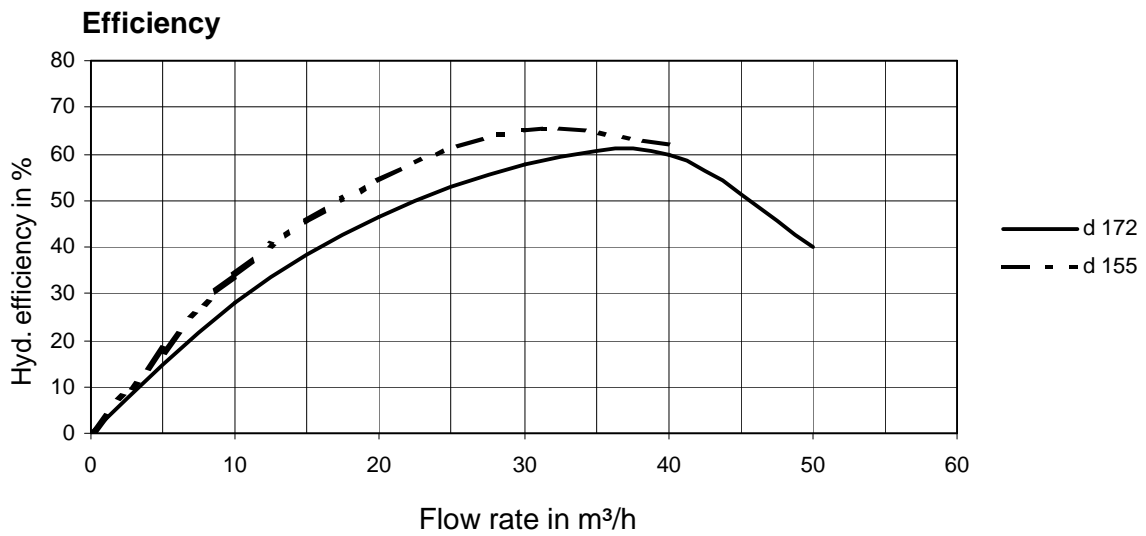
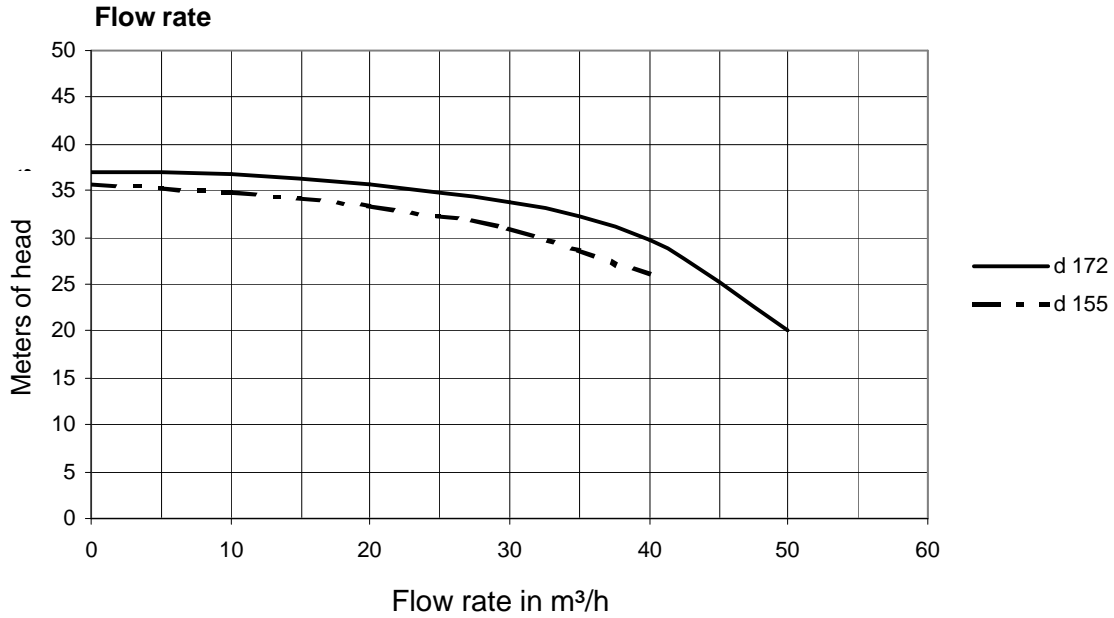
Type BN 65 - 40 - 125

Motor kW: 1.5
Speed: 1450



Type BN 65 - 40 - 160

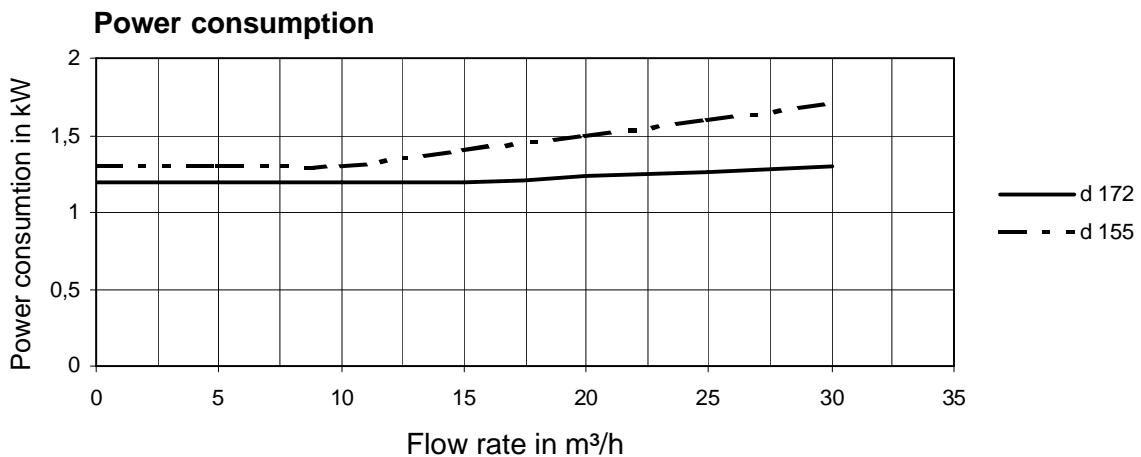
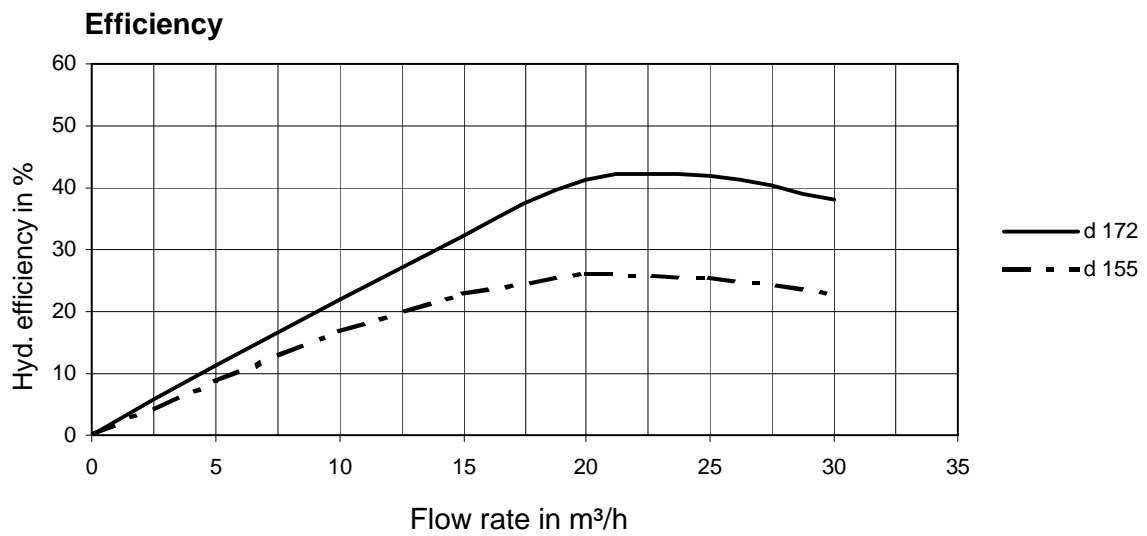
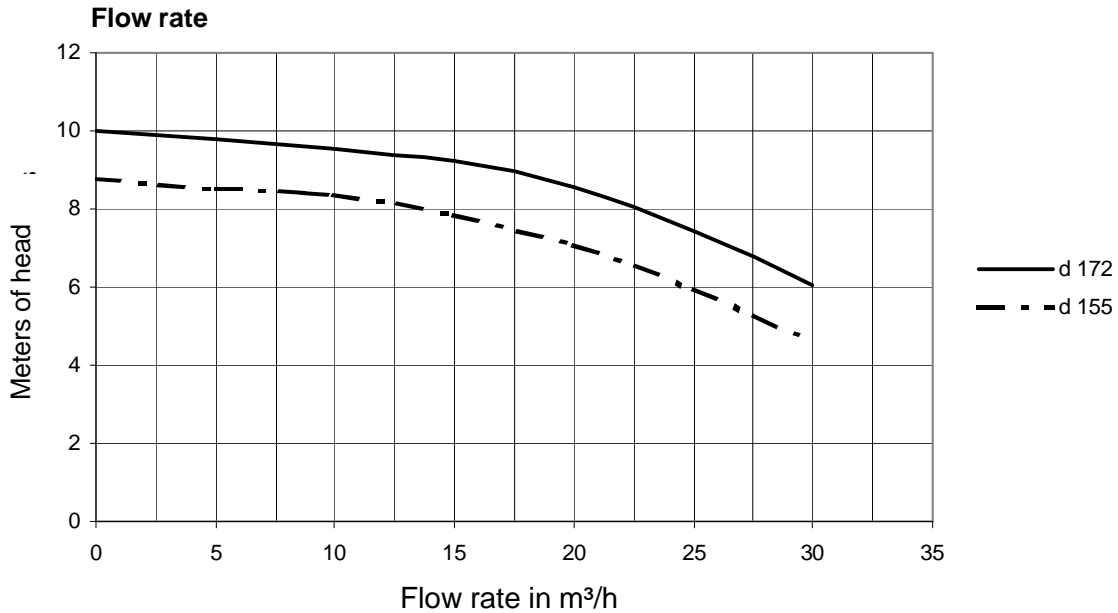
Motor kW: 7.5
Speed: 2900



Type BN 65 - 40 - 160

Motor kW: 2.2
Speed: 1450

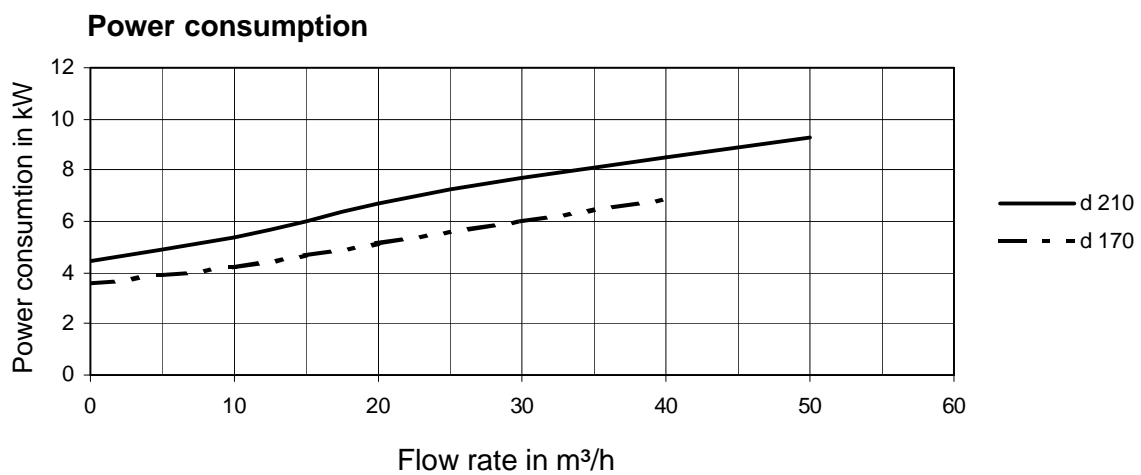
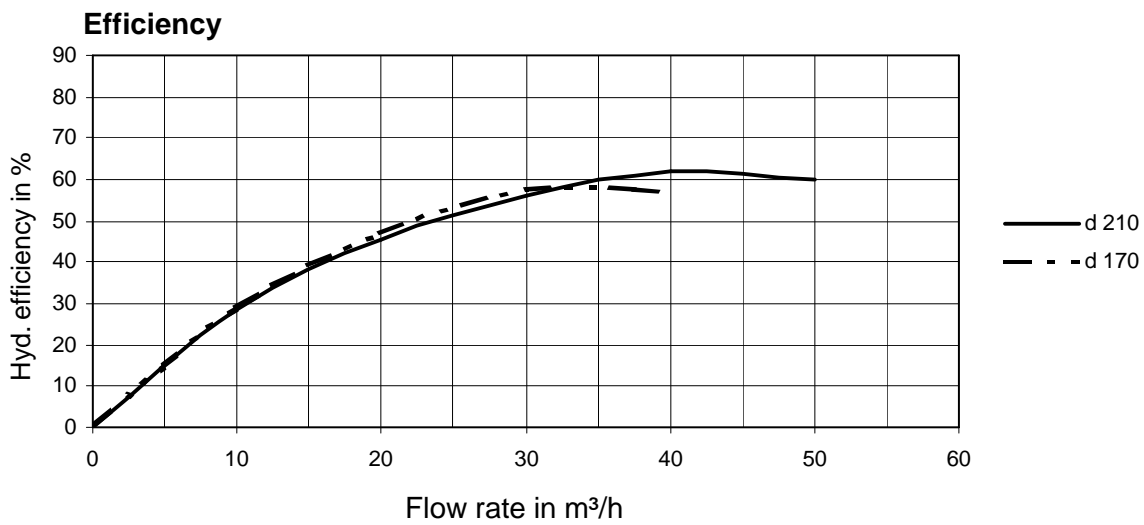
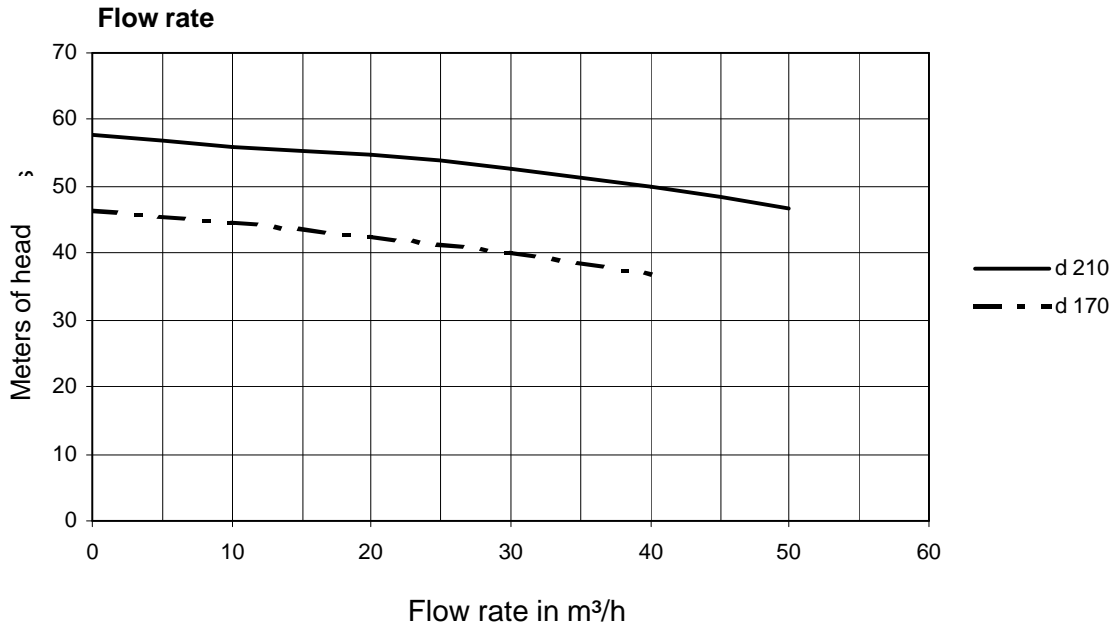
Chemical Motor Pump Unit BN



Type BN 65 - 40 - 200

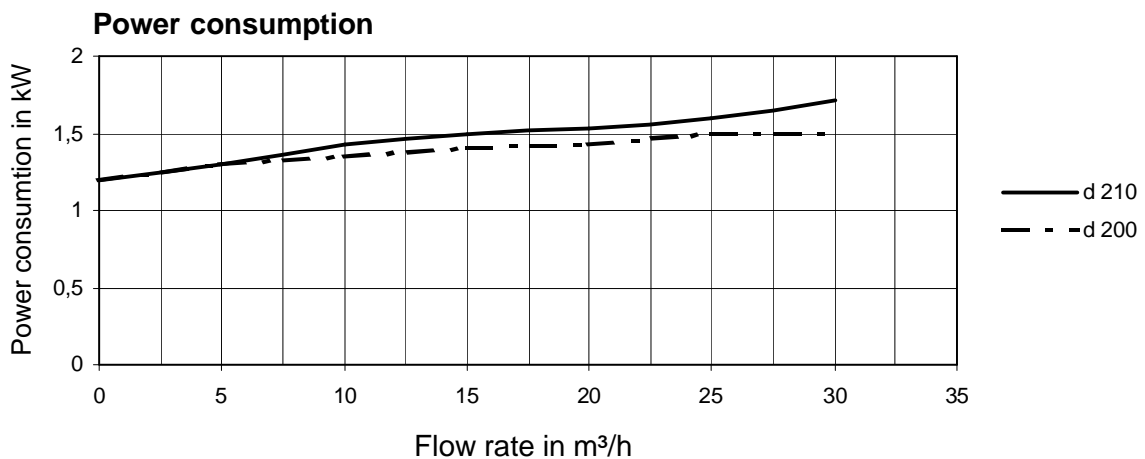
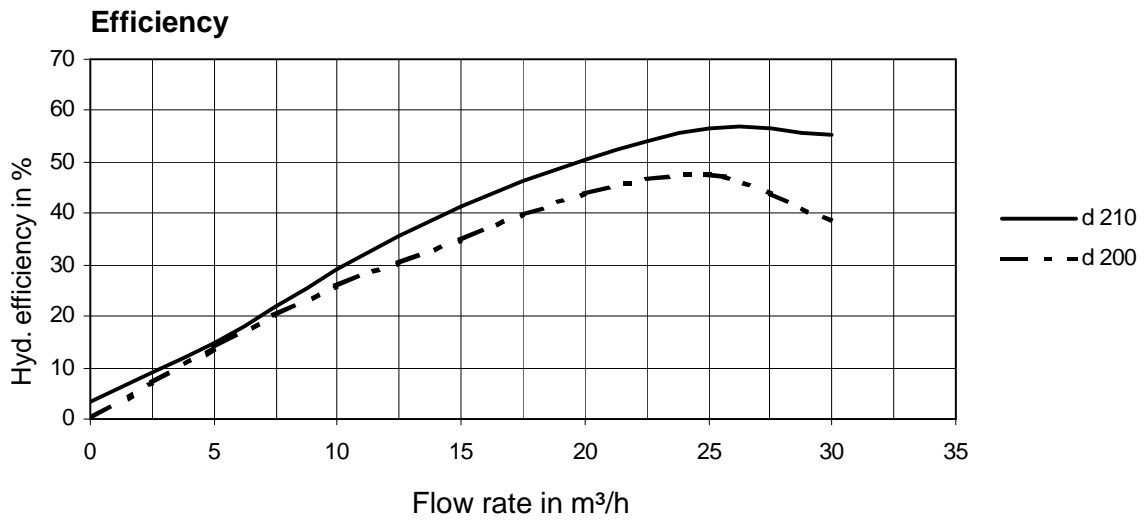
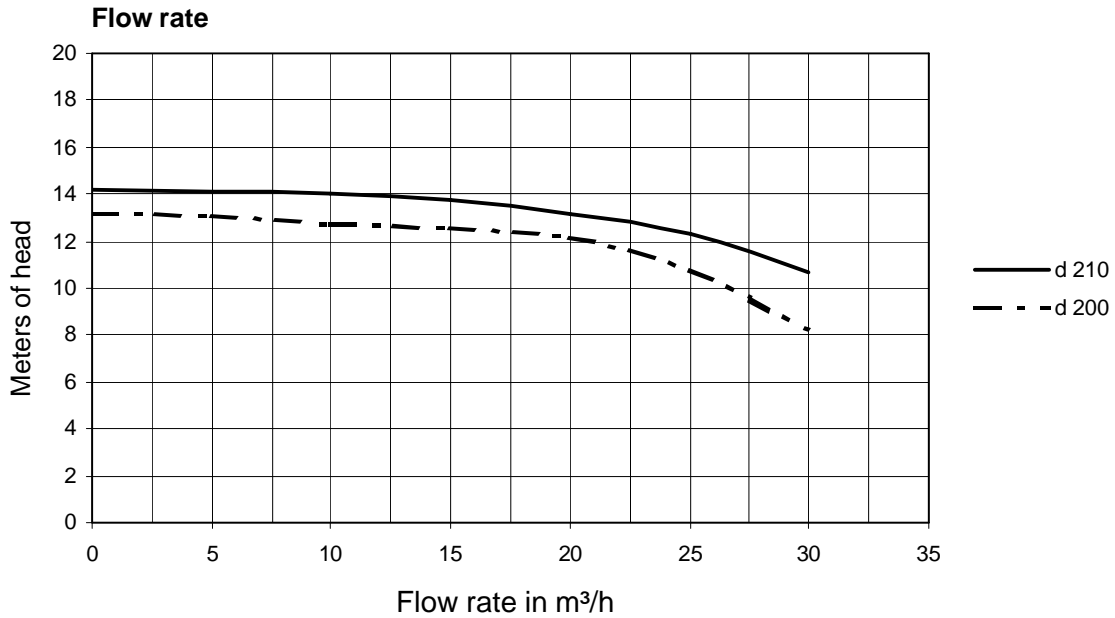
Motor kW: 7.5
Speed: 2900

Chemical Motor Pump Unit BN



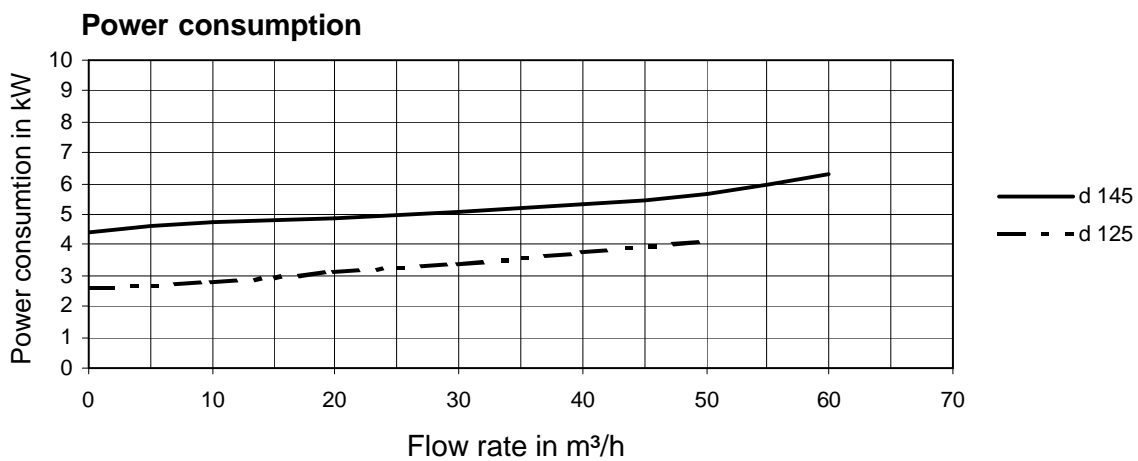
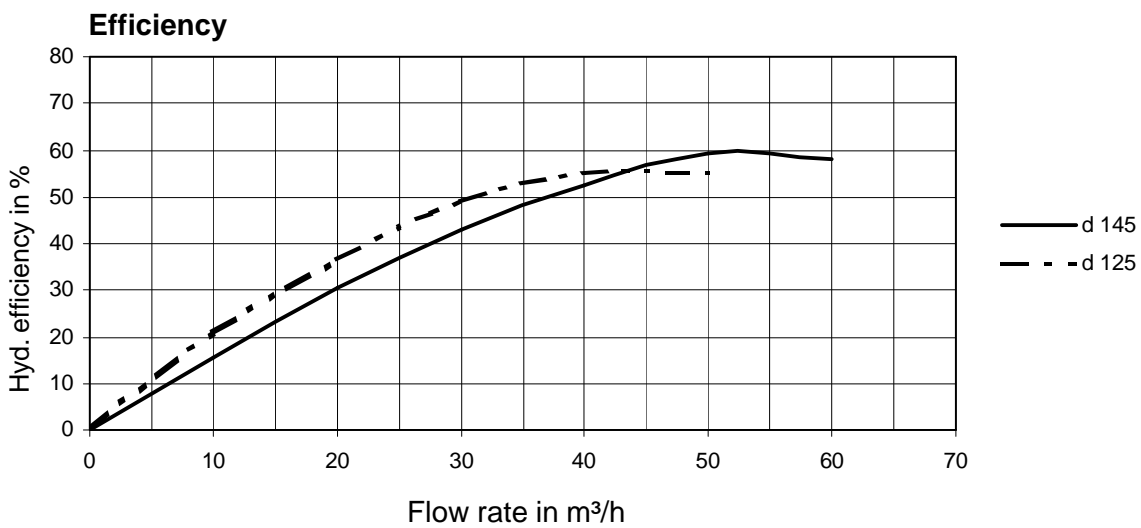
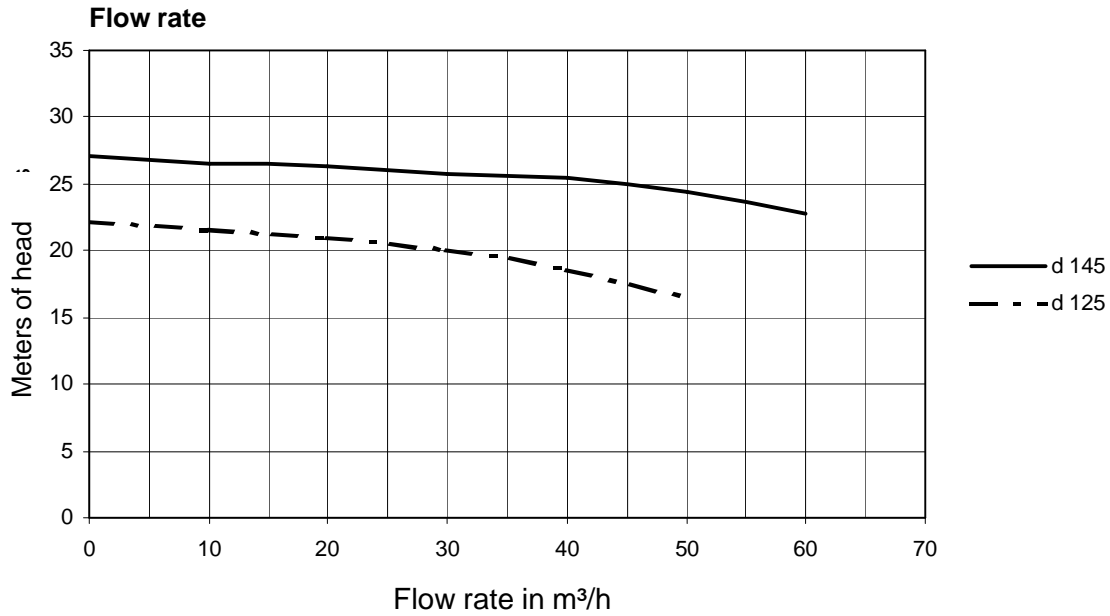
Type BN 65 - 40 - 200

Motor kW: 2.5
Speed: 1450



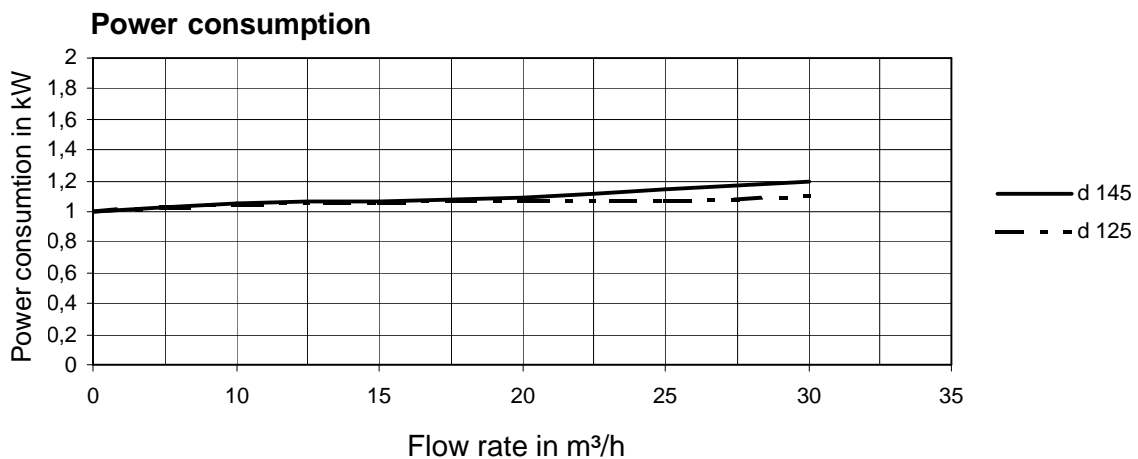
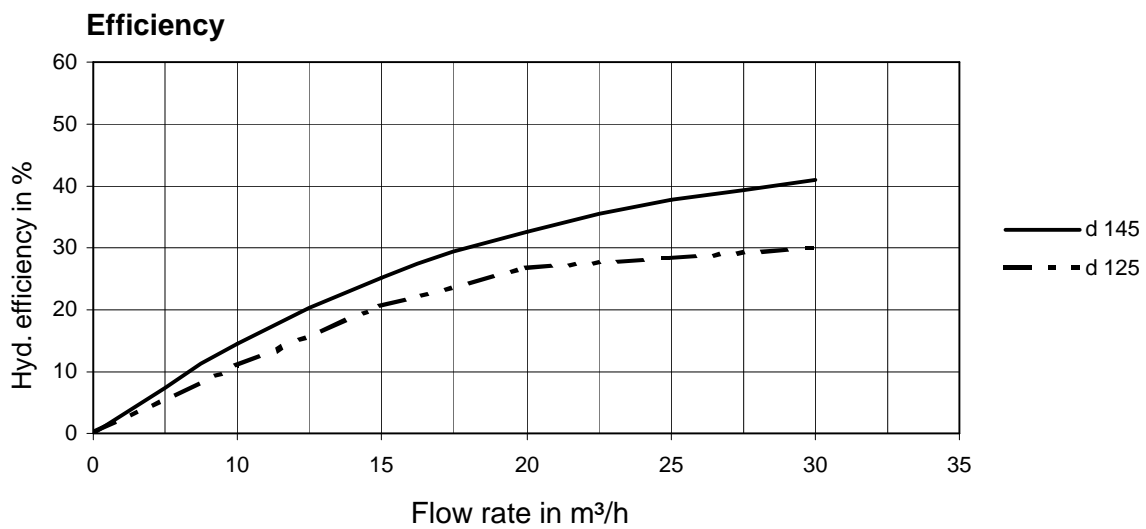
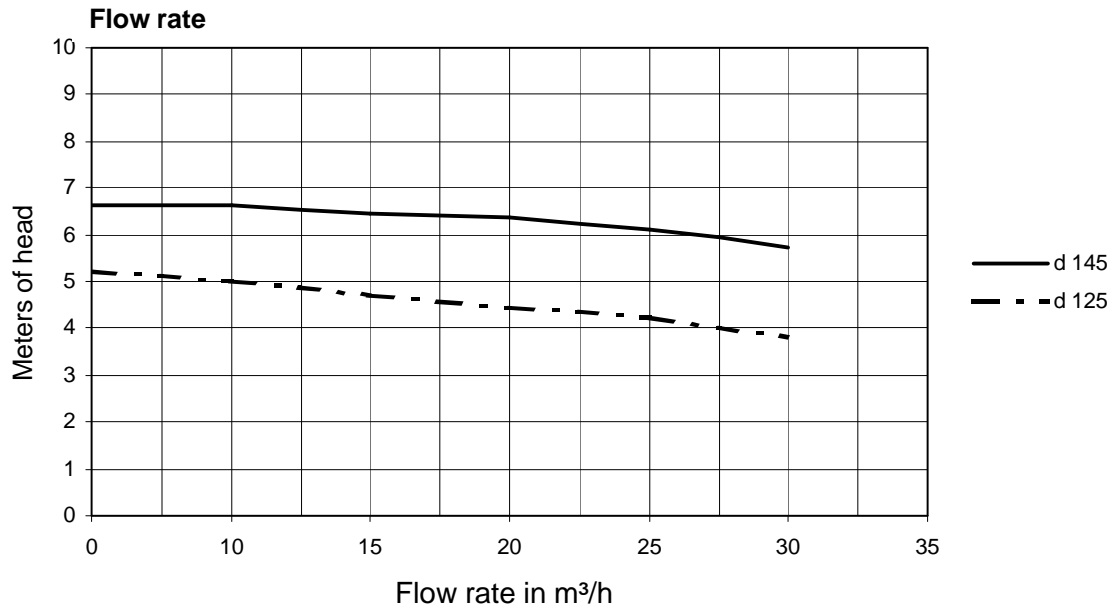
Typ BN 80 - 50 - 125

Motor kW: 7.5
Speed: 2900



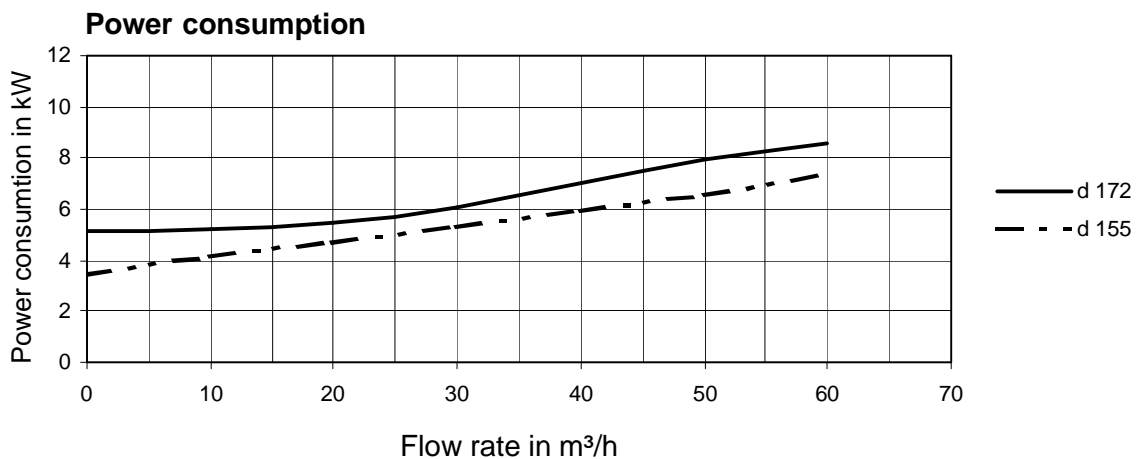
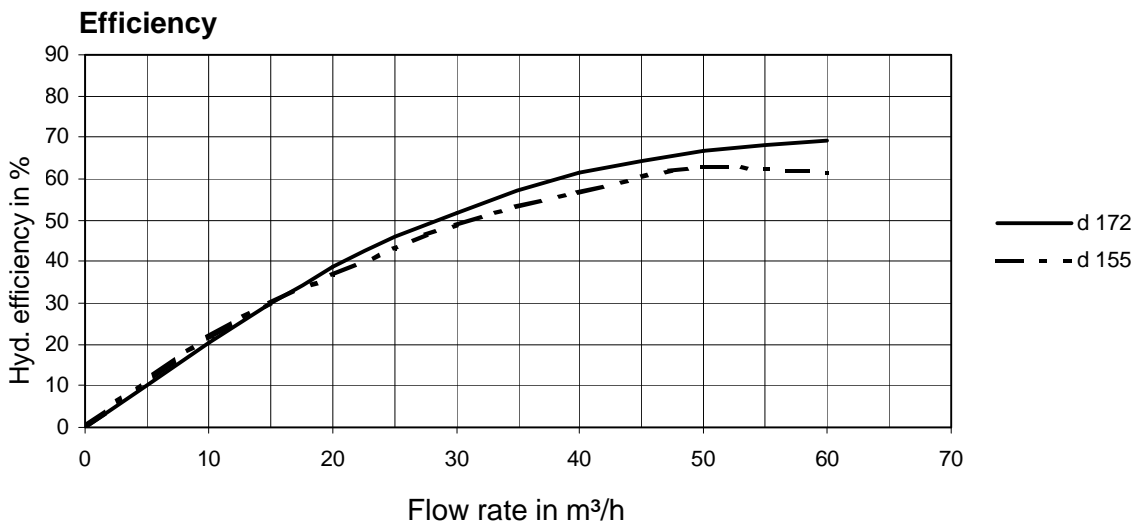
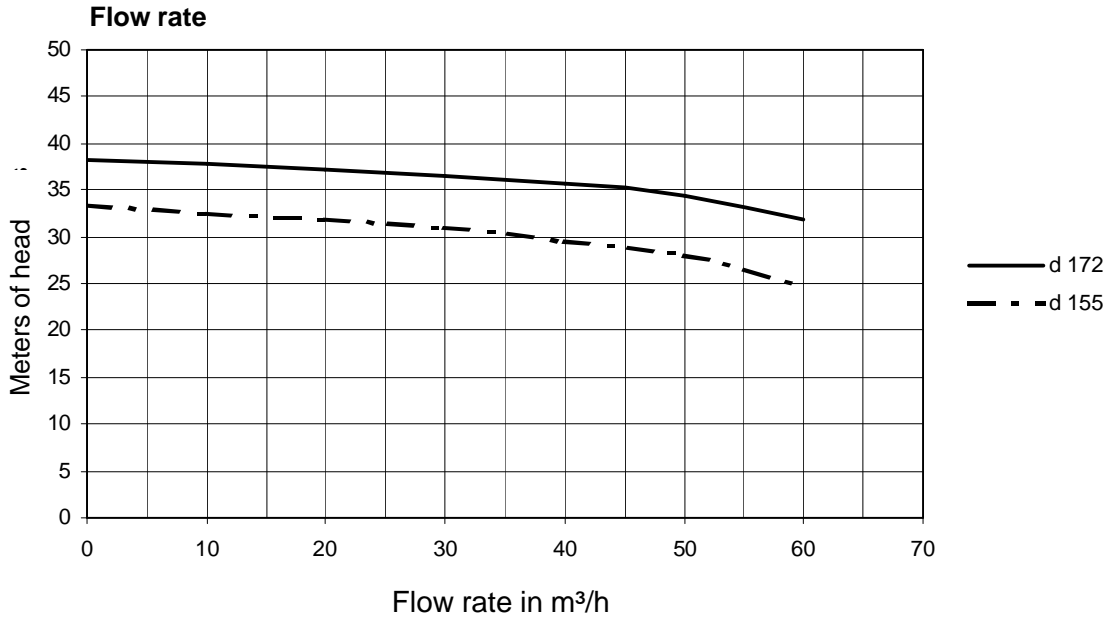
Type BN 80 - 50 - 125

Motor kW: 1.5
Speed: 1450



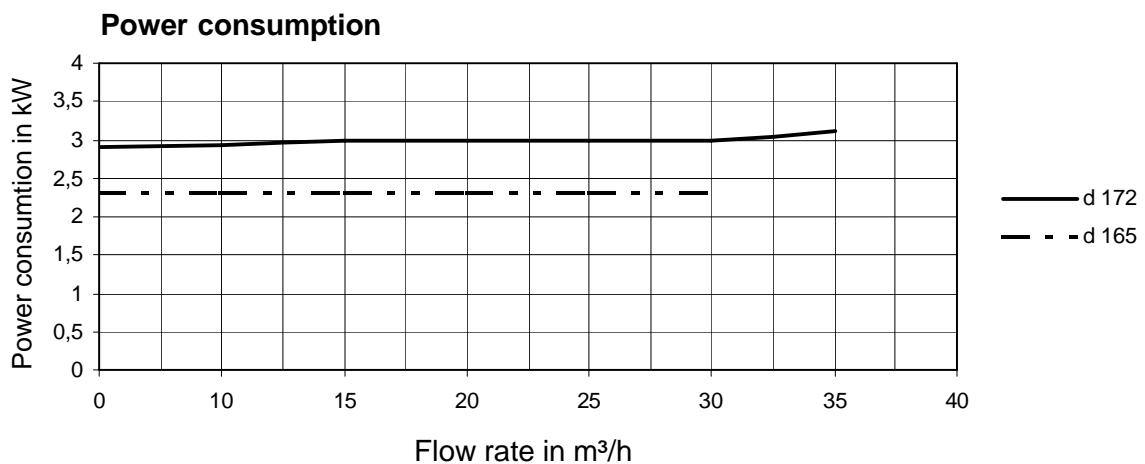
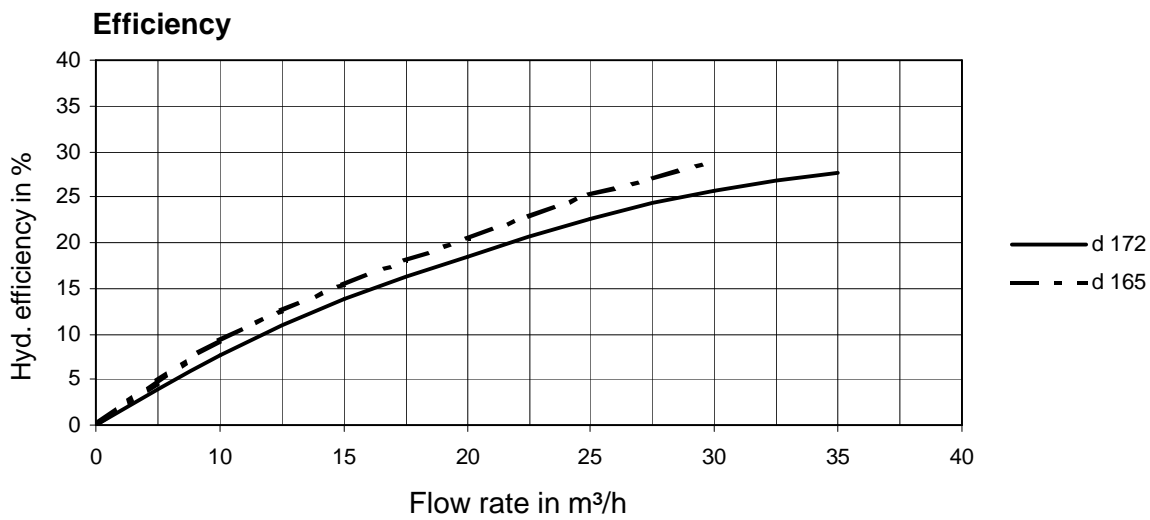
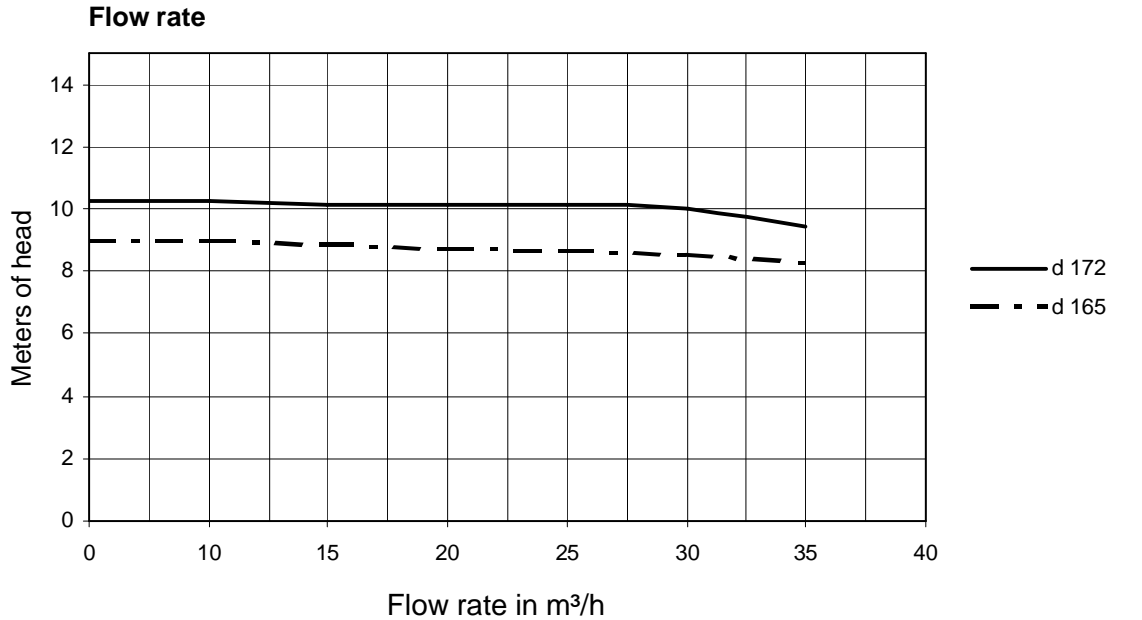
Type BN 80 - 50 - 160

Motor kW: 11
Speed: 2900



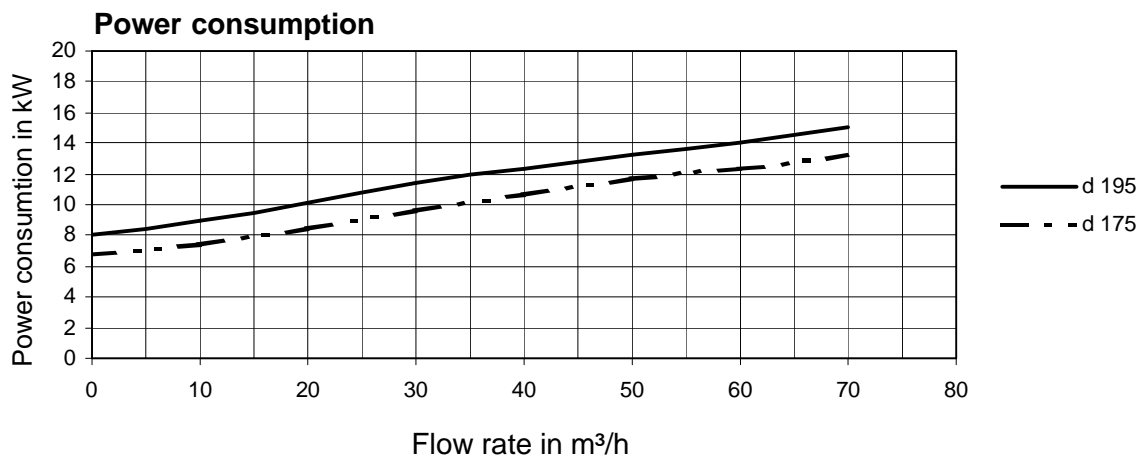
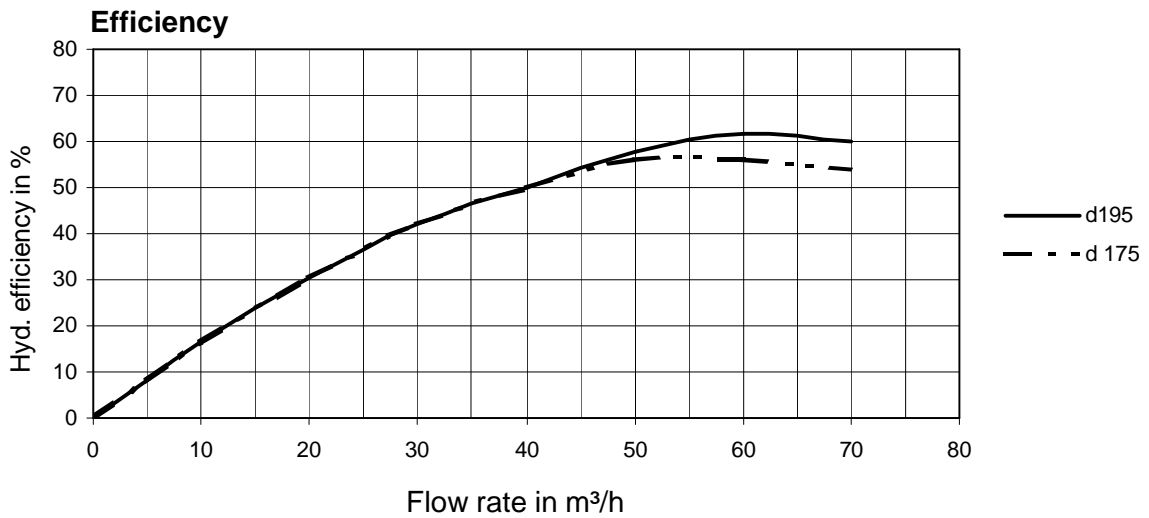
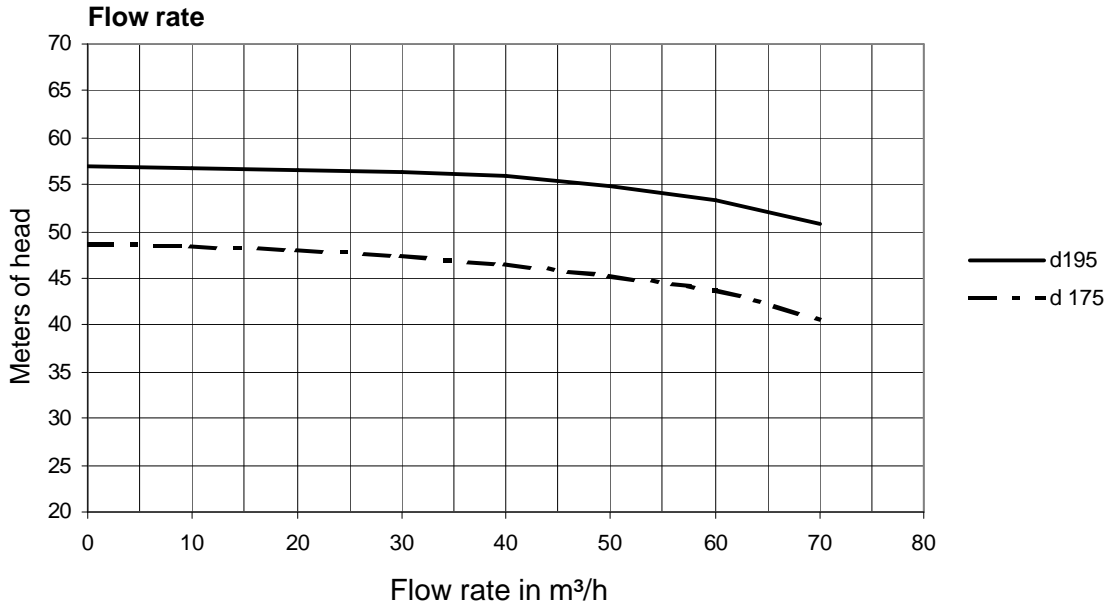
Type BN 80 - 50 - 160

Motor kW: 4
Speed: 1450



Type BN 80 - 50 - 200

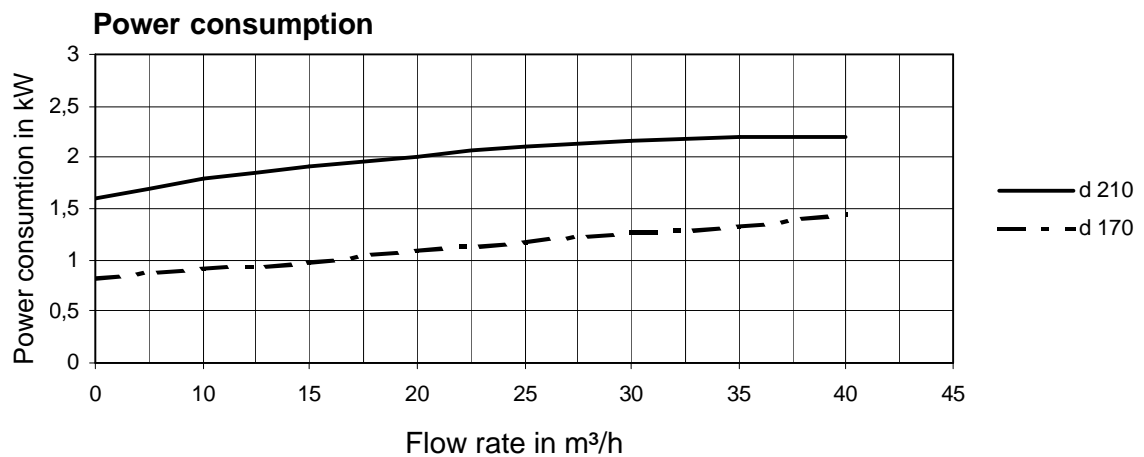
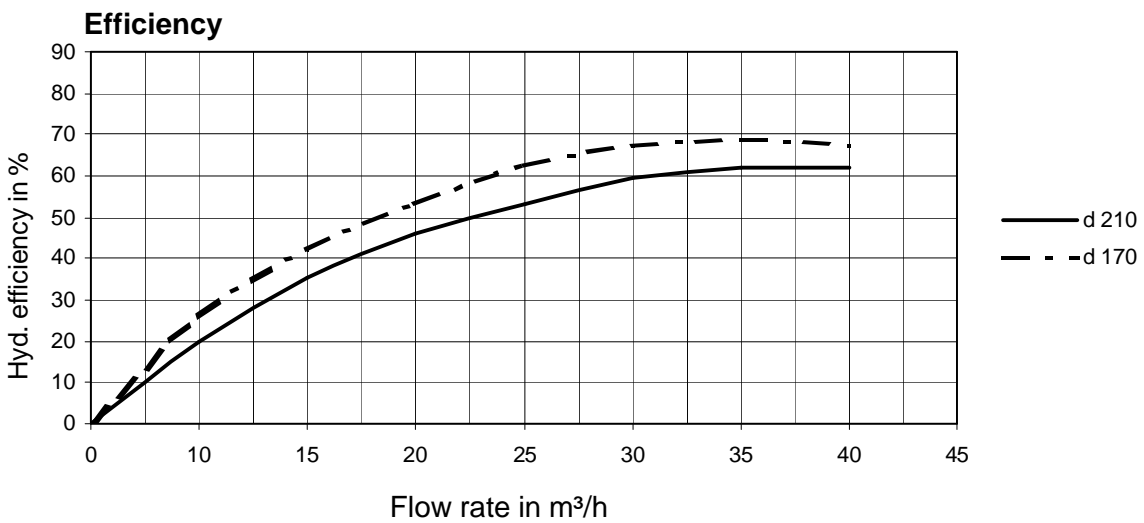
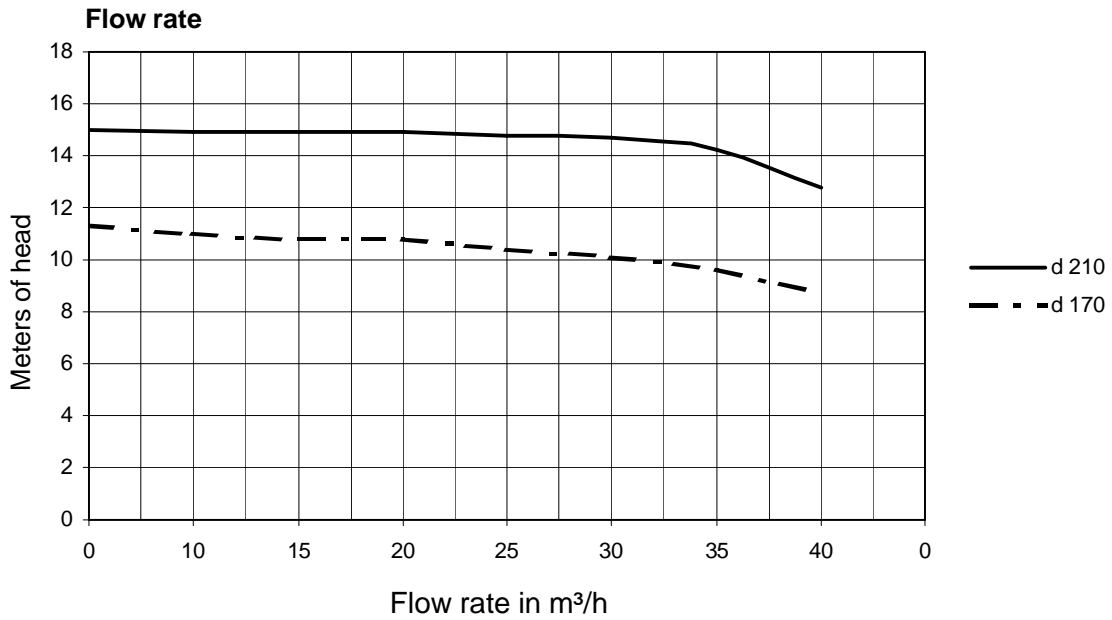
Motor kW: 15
Speed: 2900



Type BN 80 - 50 - 200

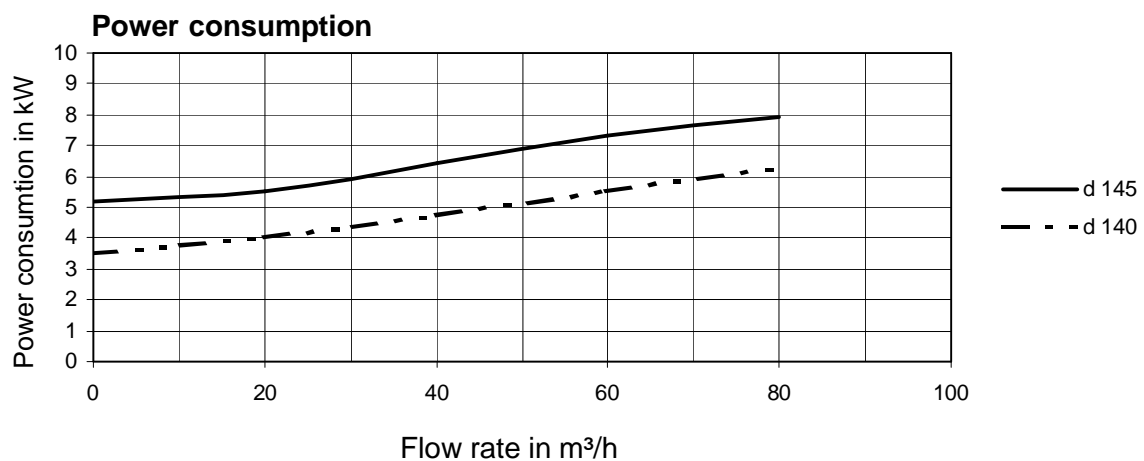
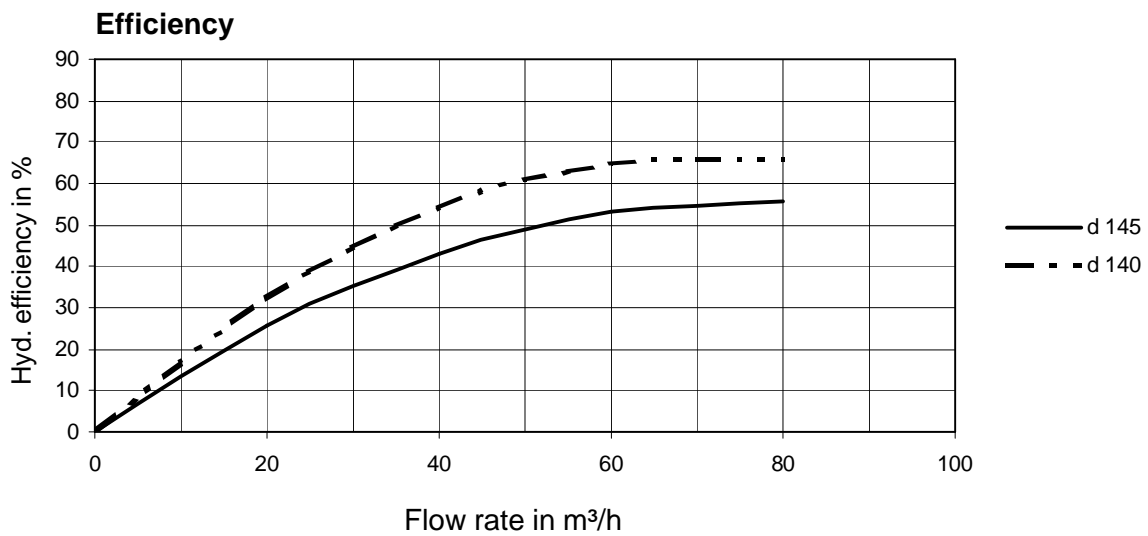
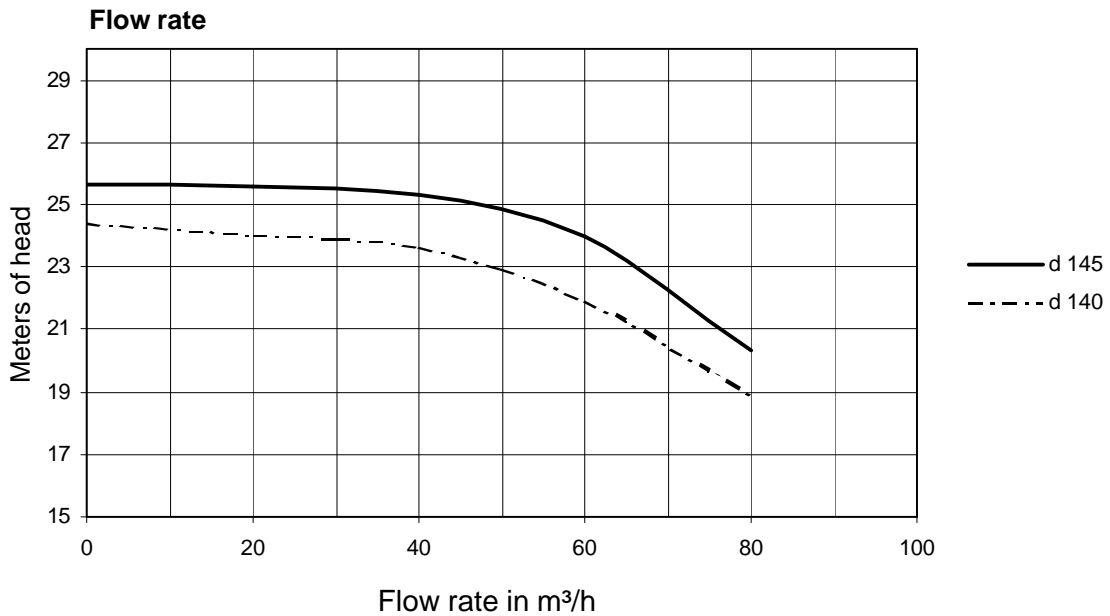
Motor kW: 3
Speed: 1450

Chemical Motor Pump Unit BN



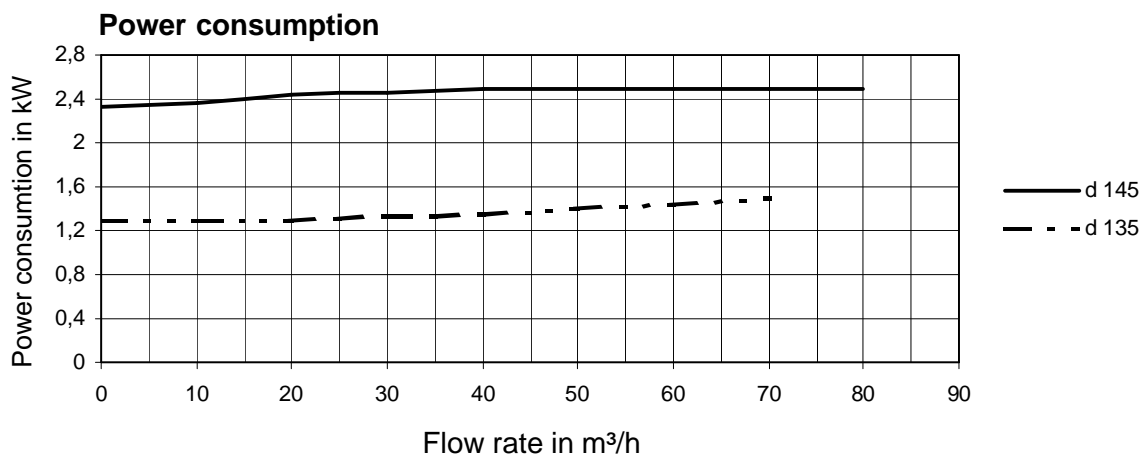
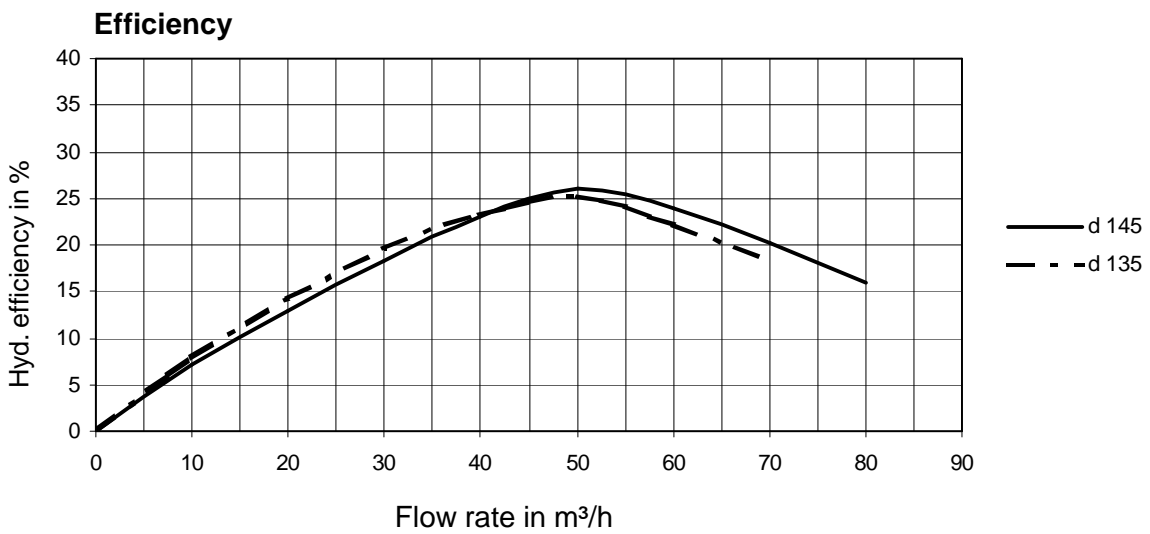
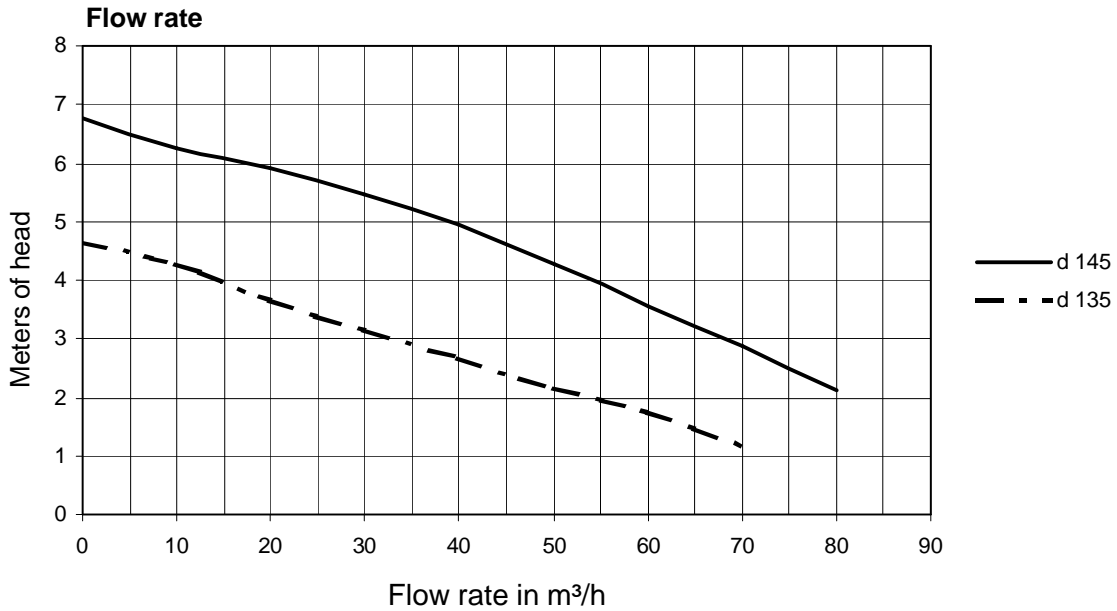
Type BN 100 - 65 - 125

Motor kW: 11
Speed: 2900



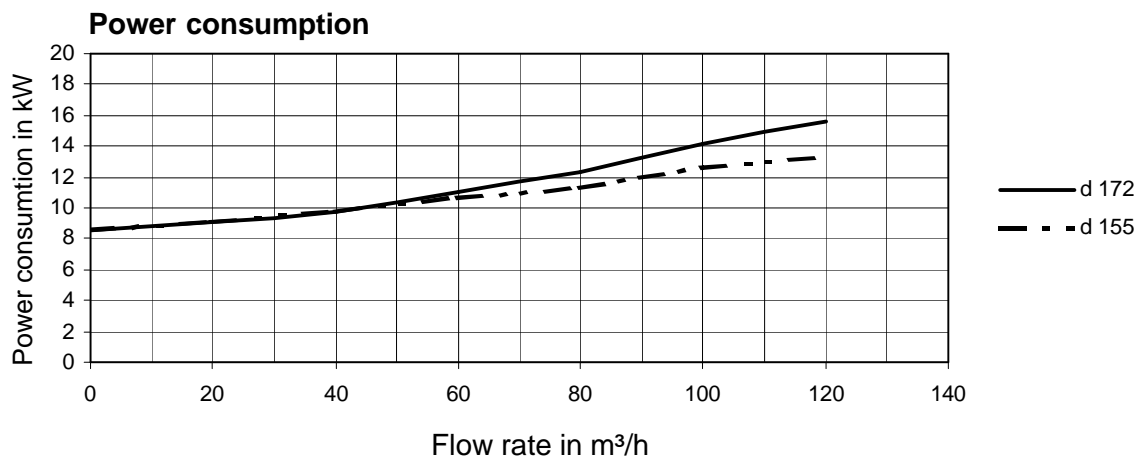
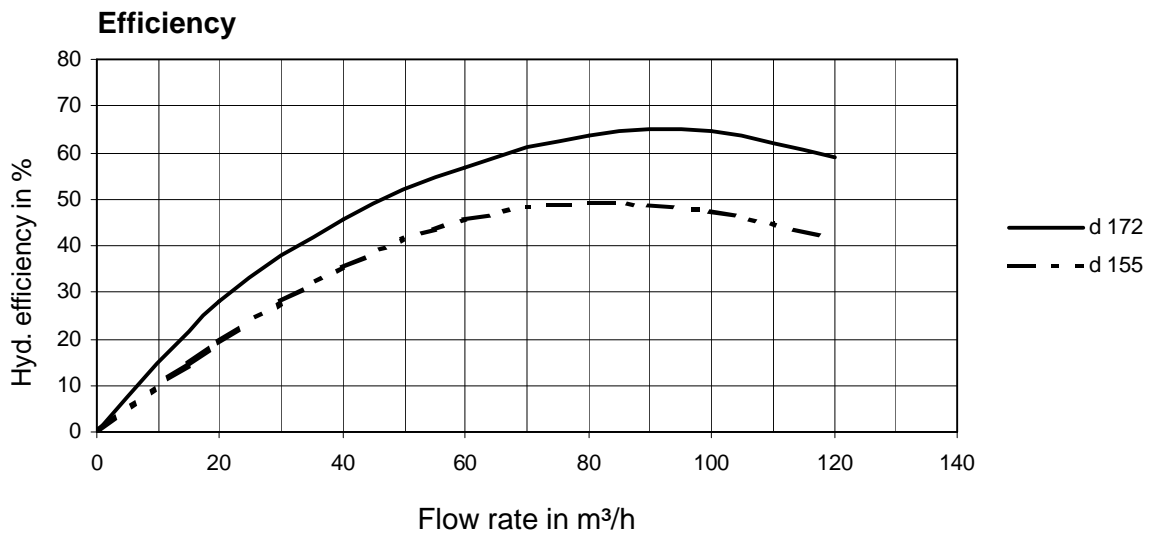
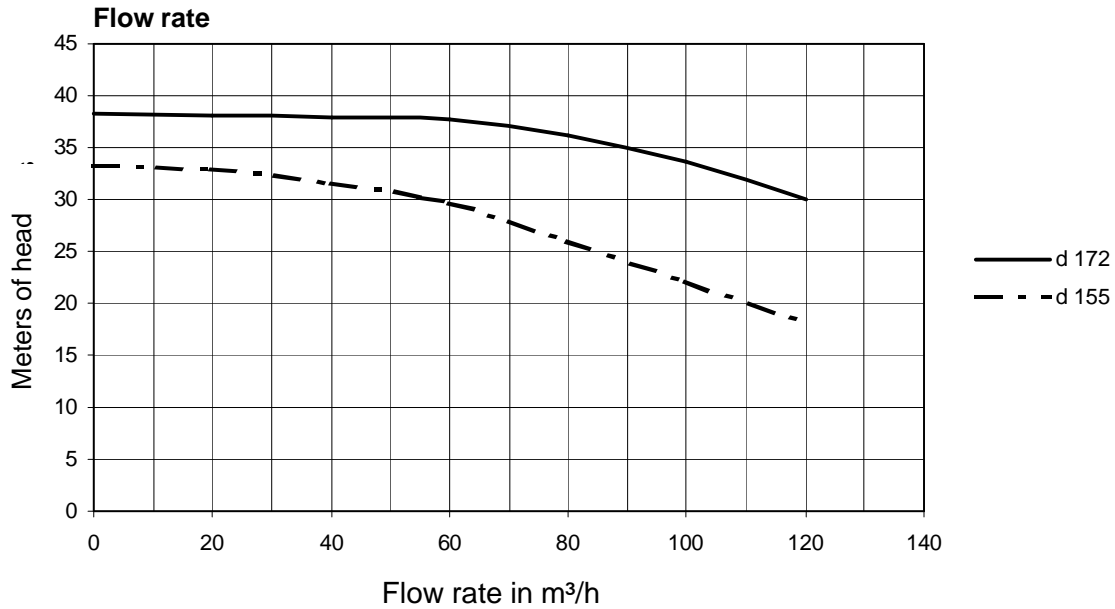
Type BN 100 - 65 - 125

Motor kW: 5.5
Speed: 1450



Type BN 100 - 65 - 160

Motor kW: 15
Speed: 2900



Type BN 100 - 65 - 160

Motor kW: 3
Speed: 1450

