



### Construction

Close-coupled, single-impeller, centrifugal pumps; electric motor with extended shaft directly connected to the pump. Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).

**Connections:** Flanges PN 10, EN 1092-2.

### Counterflanges (on request)

Sizes	Flanges
NR, NR4 40,50,65	Screwed flanges PN 16, EN 1092-1
NR4 100, NR4 125	Flanges for welding PN 10, EN 1092-1

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### Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials (contents of solids up to 0.2%).  
For heating, conditioning, cooling and circulation plants.  
For civil and industrial applications.  
When low noise operation is required (n ≈ 1450 rpm).

### Operating conditions

Liquid temperature from -10 °C to +90 °C.  
Ambient temperature up to 40 °C.  
Total suction lift up to 7 m.  
Maximum permissible working pressure up to 10 bar.  
Continuous duty.

### Motor

2-pole induction motor, 50 Hz (n = 2900 rpm).  
**NR** : three-phase 230/400 V ± 10% up to 3 kW;  
400/690 V ± 10% from 4 to 18,5 kW.

**NRM** : single-phase 230 V ± 10%.  
4-pole induction motor, 50 Hz (n = 1450 rpm).  
**NR4**: three-phase 230/400 V ± 10% up to 3 kW;  
400/690 V ± 10% for 4 kW.

**NRM4**: single-phase 230 V ± 10%.  
Insulation class F.  
Protection IP 54.  
Motor suitable for operation with frequency converter from 1,1 kW for NR4 and from 2,2 kW for NR.

**Classification scheme IE2 for three-phase motor from 0,75 kW.**  
Constructed in accordance with EN 60034-1, EN 60034-30,  
EN 60335-1, EN 60335-2-41.

The electropumps NR, NR4 series comply with the European Regulation no. 547/2012 in force starting from 01.01.2013.

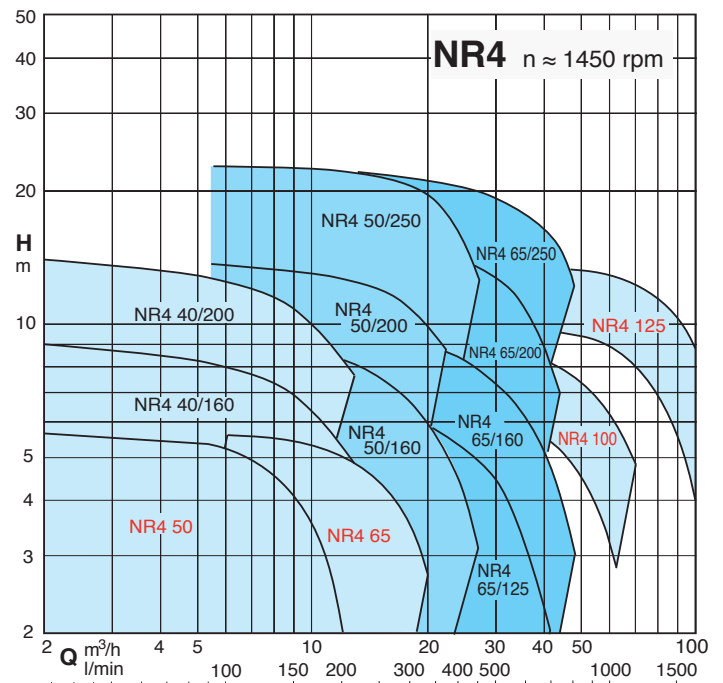
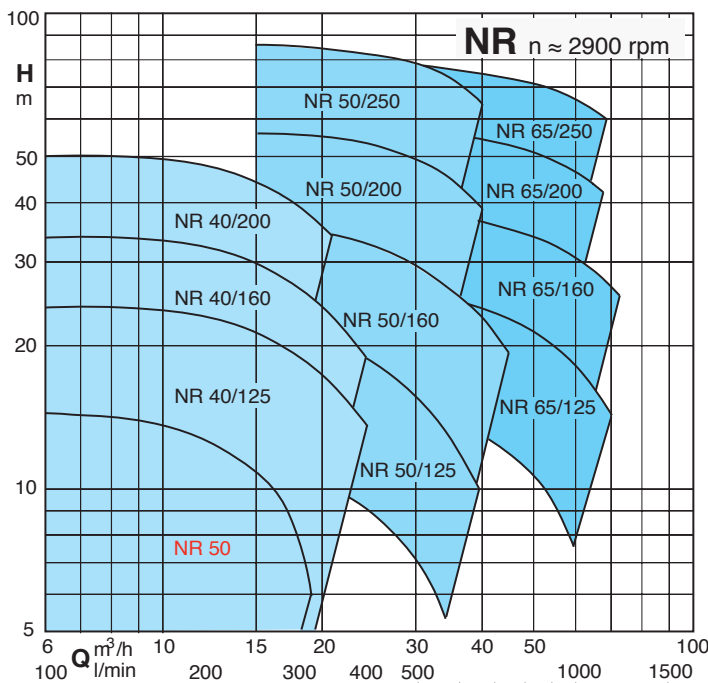
### Materials

Component	Material
Pump casing Lantern bracket	Cast iron GJL 200 EN 1561
Impeller	Cast iron GJL 200 EN 1561 (Brass P-Cu Zn Pb 2 EN 1982 for NR-NR4 40, 50)
Shaft	Chrome-nickel steel AISI 303 for pumps up to 1.1 kW Chrome steel AISI 430 for pumps from 1.5 to 4 kW
Mechanical seal	Carbon - Ceramic - NBR
Counterflanges	Steel Fe 42 UNI 7070

### Special features on request

- Other voltages. - Protection IP 55. - Frequency 60 Hz
- Special mechanical seal. - Higher or lower liquid or ambient temperatures.
- Motor suitable for operation with frequency converter up to 0,75 kW for NR4 and up to 1,5 kW for NR.

### Coverage chart



### Performance n ≈ 2900 rpm

3 ~	230V 400V		1 ~	230V P <sub>1</sub>		P <sub>2</sub>		Q m <sup>3</sup> /h														
	A	A		A	kW	kW	HP		l/min	0	6	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	
NR 50D/A	2,3	1,3	NRM 50D/A	3,6	0,72	0,45	0,6	H	11,6	11	10,8	10,5	10,2	9,5	8,5	7	6					
NR 50C/A	3,7	2,2	NRM 50C/A	5,7	1,13	0,75	1	m	16,2	16	15,9	15,8	15,7	15,3	14,6	14	13	11	9	5,5		

3 ~	230V 400V		P <sub>2</sub>	Q m <sup>3</sup> /h																	
	A	A			kW	HP	l/min	0	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24	
NR 40/125C	4	2,3	0,75	1	15,5	15,7	15,5	15,3	14,8	14,3	13,6	12,9	11,6	10,2	8,1	5,8					
NR 40/125B	4,6	2,7	1,1	1,5	19,5	19,8	19,6	19,4	19,0	18,5	18,0	17,5	16,5	15,2	13,6	11,6	8,5				
NR 40/125A	7,5	4,3	1,5	2	23,3	23,7	23,7	23,6	23,4	23,1	22,8	22,4	21,7	20,6	19,1	17,3	14,2				
NR 40/160B	7,5	4,3	1,5	2	26,1	25,7	25,4	25,1	24,6	24,0	23,3	22,6	21,4	19,7	17,3	14,4	9,9				
NR 40/160A	9,15	5,3	2,2	3	33,6	32,9	32,6	32,3	31,8	31,3	30,6	29,9	28,7	27,2	25,2	23,1	19,4				
NR 40/200B	11,5	6,6	3	4	41,9	40,2	39,7	39,2	38,5	37,6	36,7	35,7	33,8	31,0	26,9	22,0					
NR 40/200A		9,6	4	5,5	52,4	49,6	49,1	48,5	47,6	46,7	45,7	44,7	43,0	41,2	38,6	34,8					

3 ~	230V 400V		P <sub>2</sub>	Q m <sup>3</sup> /h																	
	A	A			kW	HP	l/min	0	15	16,8	18,9	21	24	27	30	33	37,8	39	42	45	
NR 50/125F	4,7	2,7	1,1	1,5	14,9	13,8	13,4	12,8	12,1	11	9,9	8,4	6,9								
NR 50/125C	7,5	4,3	1,5	2	17,7	17,4	17	16,5	16	15	13,9	12,6	11,3	9	8,3						
NR 50/125A/A	9,15	5,3	2,2	3	22,2	21,7	21,4	21	20,6	19,8	18,8	17,5	16,3	14,1	13,5	12					
NR 50/160C/A	9,15	5,3	2,2	3	23,1	21,9	21,4	20,6	19,9	18,6	17,3	15,6	13,8	10,8	10						
NR 50/160B/A	11,5	6,6	3	4	28,6	27,9	27,4	26,7	26	24,6	23,1	21,3	19,7	16,6	15,7	13,6					
NR 50/160A/A		9,6	4	5,5	36,3	35,5	35,1	34,5	33,7	32,7	31,2	29,4	27,5	24,3	23,4	21,3	19,1				
NR 50/200D/A		9,6	4	5,5	41,8	37,8	36,8	35,7	34,5	32,4	30,1	27,6	24,9								
NR 50/200B/A		10,9	5,5	7,5	50,9	48,5	47,7	46,8	45,7	43,9	41,7	39,2	36,5								
NR 50/200A/A		14,3	7,5	10	56,7	54,9	54,3	53,4	52,4	50,7	48,9	46,5	44,1	39,7	38,8						
NR 50/250C/A		18,5	9,2	12,5	61,2	58,8	58	57,3	56,5	55	53,2	51,1	48,9	44,8	43,1	39,4					
NR 50/250B/A		21,5	11	15	69,4	67	66,4	65,5	64,8	63,2	61,5	59,6	57,7	53,8	52,6	50					
NR 50/250A/A		27,5	15	20	87	84,6	84,1	83,2	82,3	80,7	78,8	76,9	74,3	69,8	68,4	65,2					

3 ~	230V 400V		P <sub>2</sub>	Q m <sup>3</sup> /h																	
	A	A			kW	HP	l/min	0	21	24	27	30	33	37,8	42	48	54	60	66	69	72
NR 65/125F/A	9,15	5,3	2,2	3	16,5	16	15,7	15,3	14,8	14,3	13,5	12,5	11,1	9,5	7,3	5,3					
NR 65/125D/A	11,5	6,6	3	4	21,1	20,2	19,9	19,6	19,2	18,7	17,9	16,9	15,2	13,3	11,3	9,1					
NR 65/125A/A		9,6	4	5,5	25	24,4	24,1	23,8	23,4	23	22,2	21,4	19,8	18	15,9	13,7	12,4				
NR 65/125S/A		9,6	4	5,5	27,2	26,3	26	25,7	25,4	25	24,3	23,6	22,1	20,3	18,3	16,1	14,7				
NR 65/160B/A		10,9	5,5	7,5	31,9	32	31,7	31,4	30,9	30,4	29,5	28,6	26,8	24,8	22,2	19,7	18,3	16,7			
NR 65/160A/A		14,3	7,5	10	39	39,3	39	38,7	38,3	37,9	36,9	36,1	34,7	32,9	30,6	28,1	26,7	25,3			
NR 65/200B/A		18,5	9,2	12,5	47,1	46,7	45,9	45,1	44,4	43,6	42	40,5	37,9	35,3	32,4	28,3					
NR 65/200A/A		21,5	11	15	54,2	53,3	52,8	52,3	51,5	50,7	49,2	47,5	45,1	41,9	38,1	34,5					
NR 65/200S/A		27,5	15	20	60,4	60,5	60,2	59,6	59	58	56,3	54,5	52,2	49,5	46,5	42,7					
NR 65/250C/A		21,5	11	15	54,6	54,8	54,2	53,5	52,8	52	50,5	48,9	46,3	43,5	40,6	37,3					
NR 65/250B/A		27,5	15	20	67,1	67,2	66,7	66	65,1	64,3	62,8	61,3	58,6	55,8	52,9	49,7					
NR 65/250A/A		34	18,5	25	78,5	78,5	77,8	77,3	76,7	76	74,8	73,6	71,1	68,4	65,5	62,2					

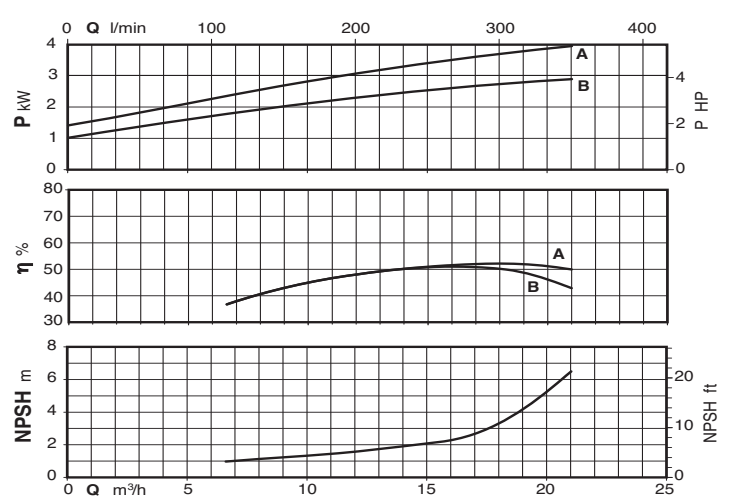
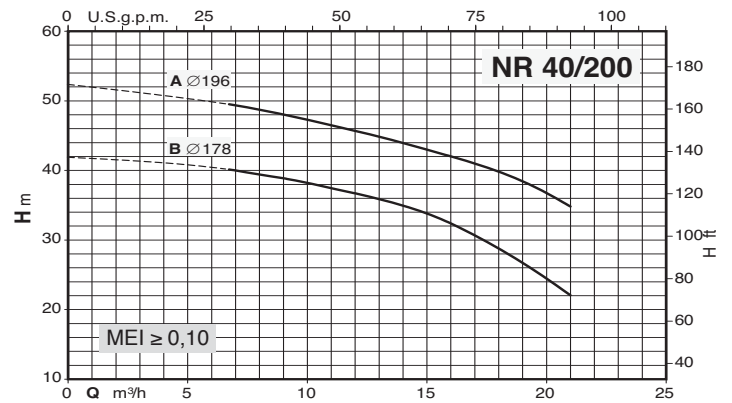
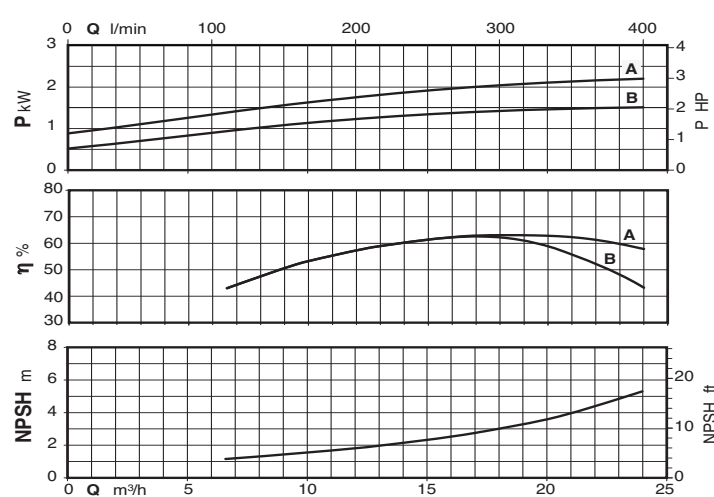
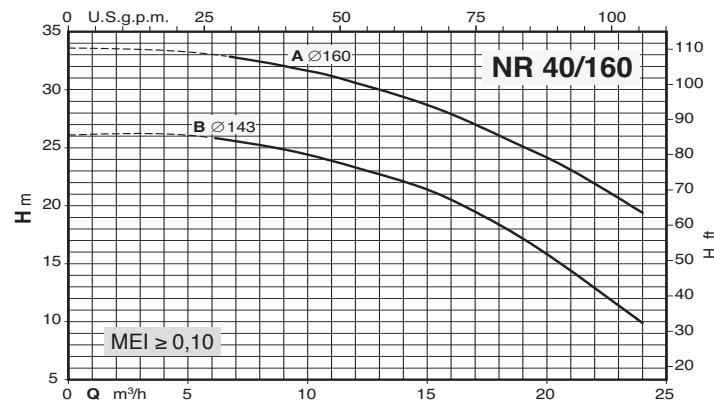
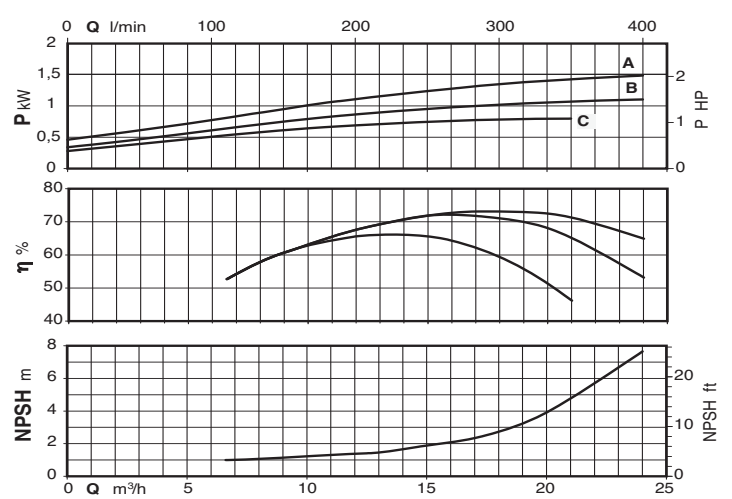
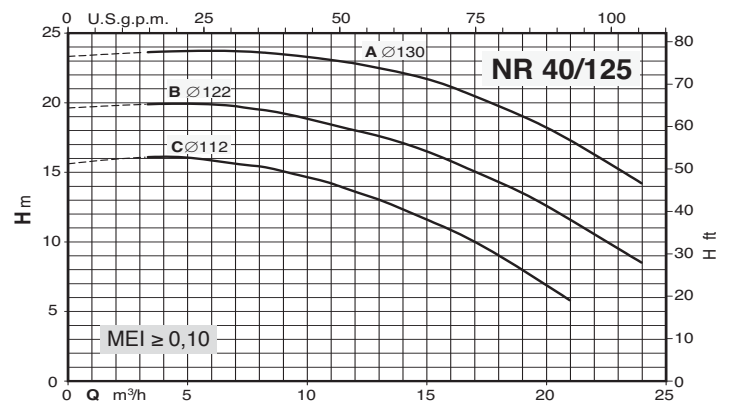
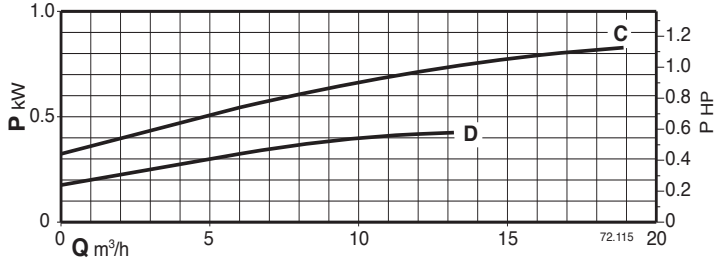
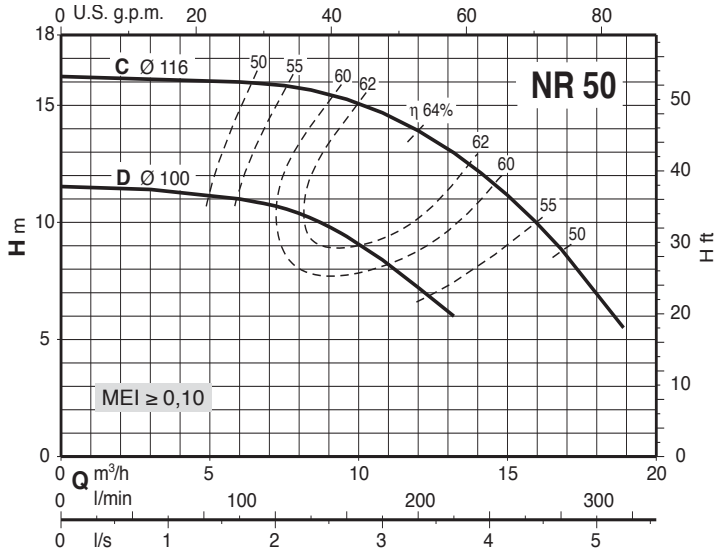
P<sub>1</sub> Max. power input. P<sub>2</sub> Rated motor power output. Tolerances according to UNI EN ISO 9906:2012

### Regulation (EU) No 547/2012

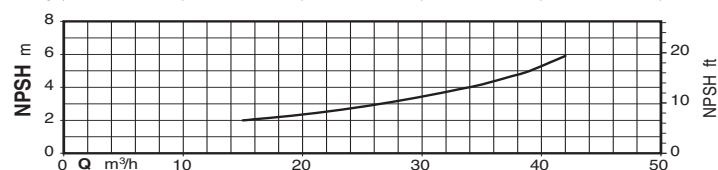
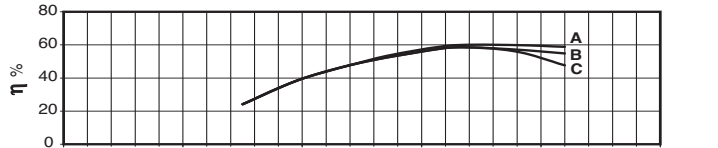
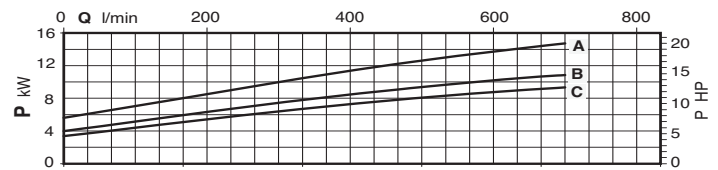
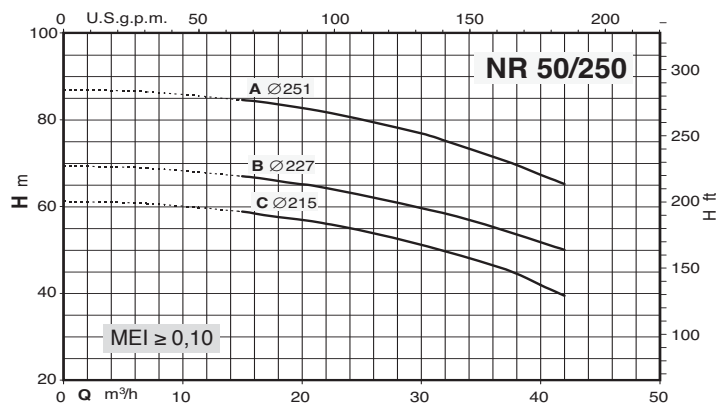
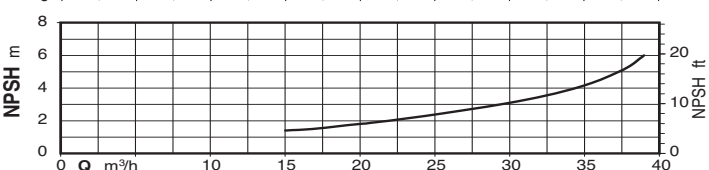
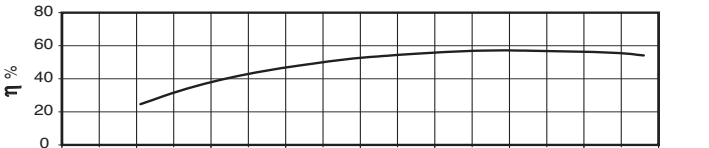
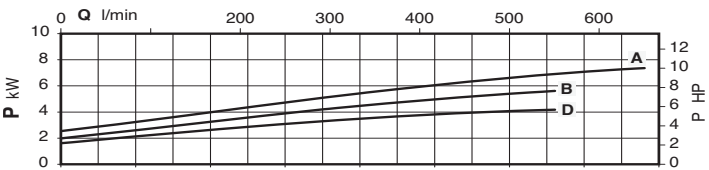
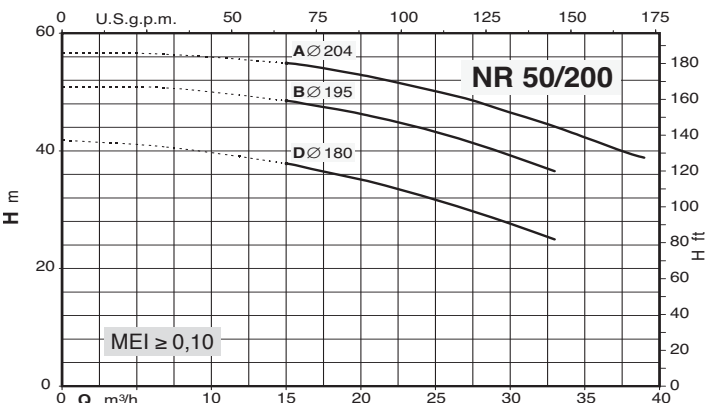
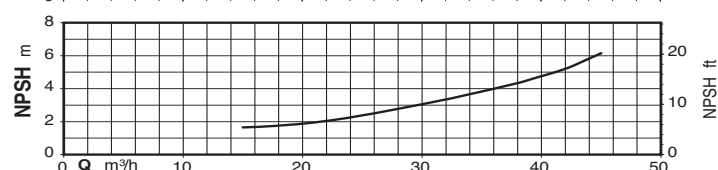
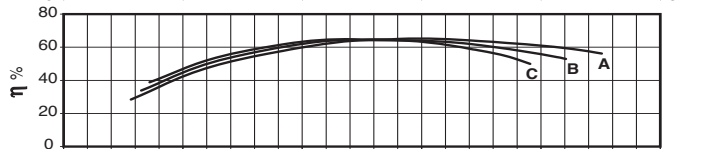
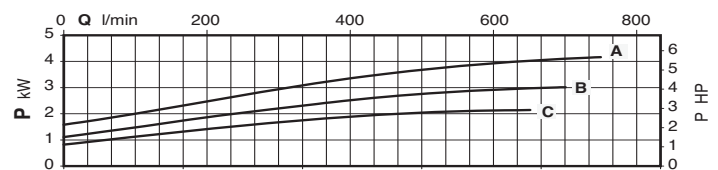
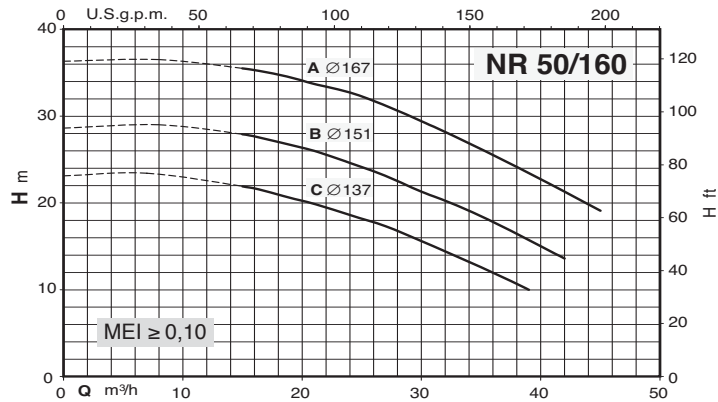
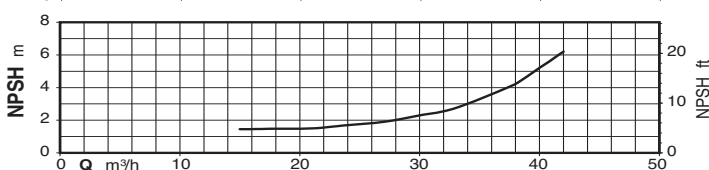
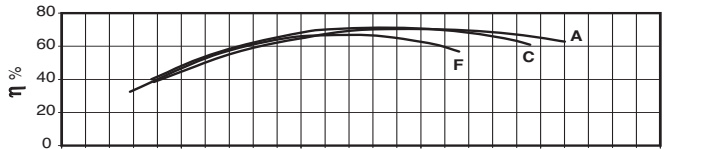
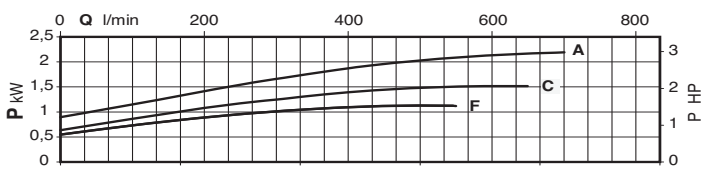
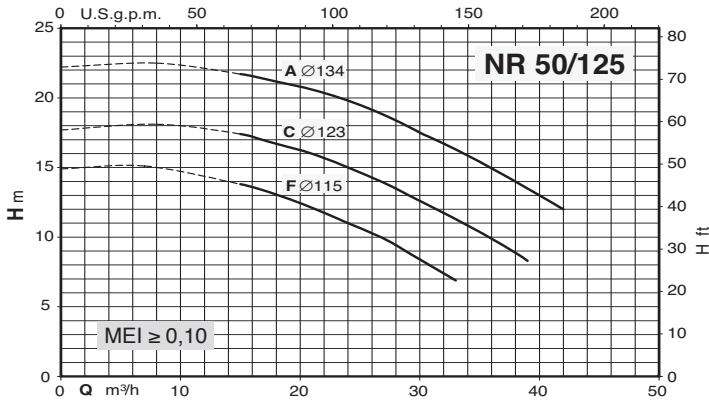
- The benchmark for most efficient water pumps is MEI ≥ 0,70.
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum 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.



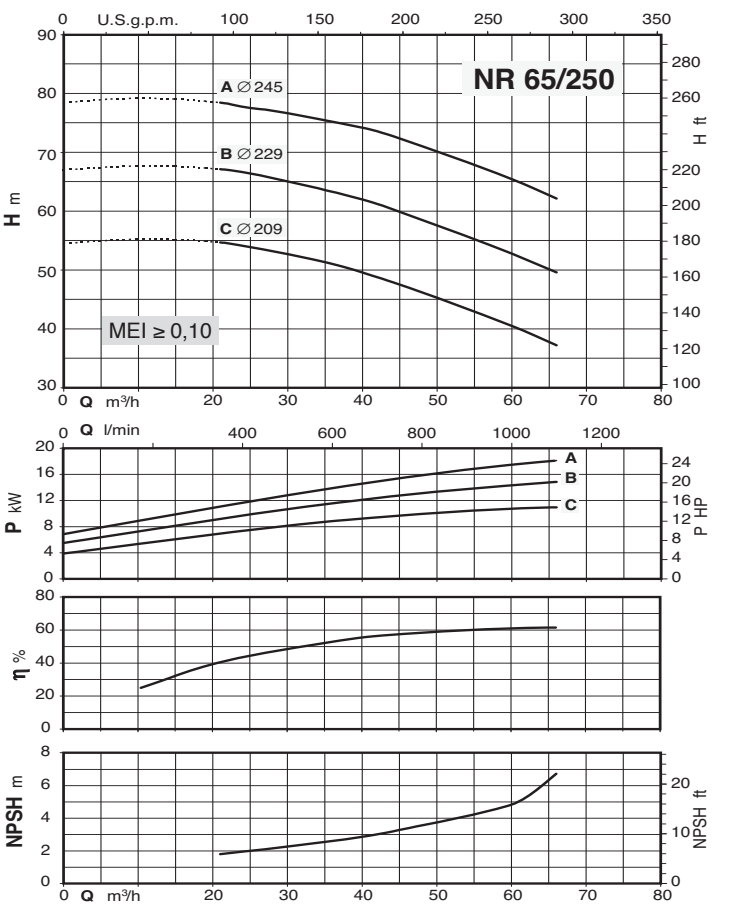
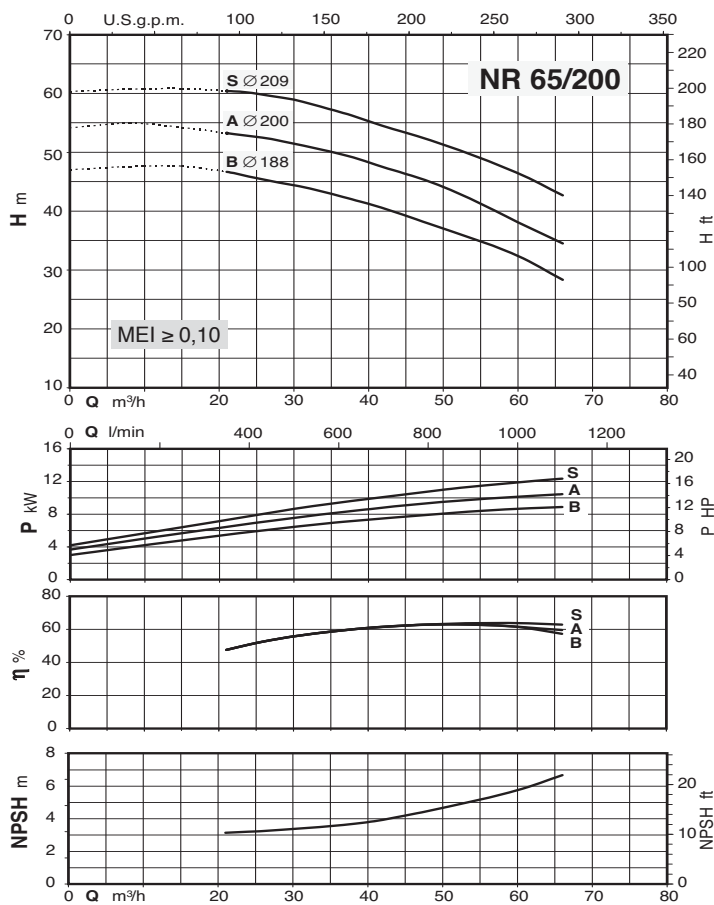
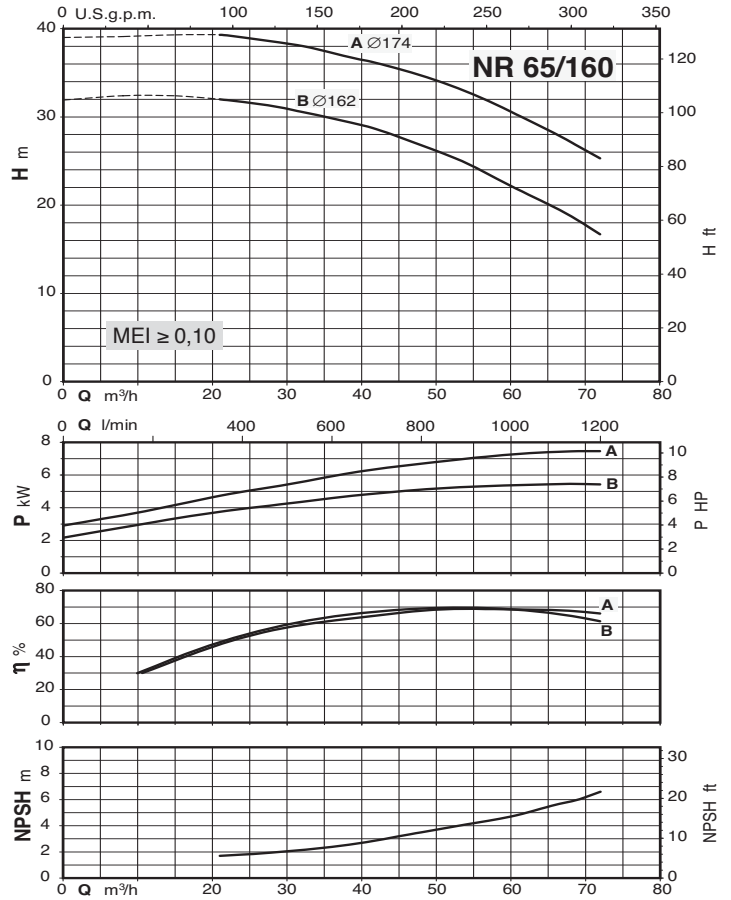
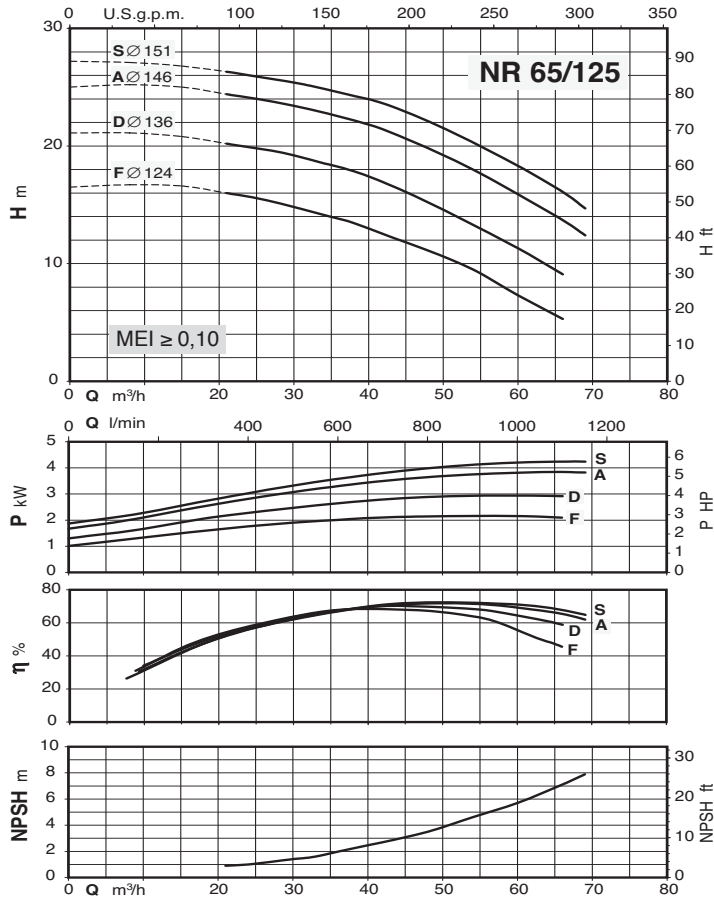
### Characteristic curves $n \approx 2900$ rpm



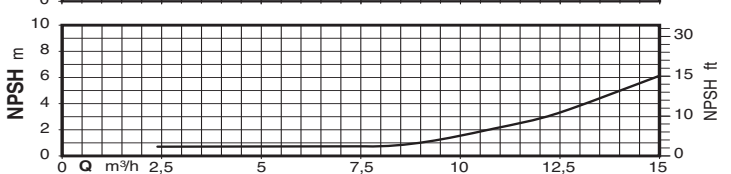
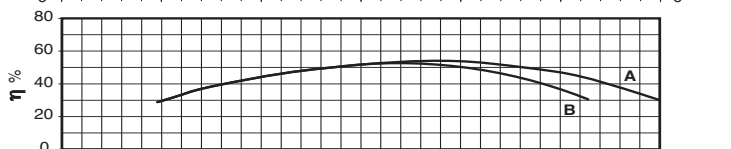
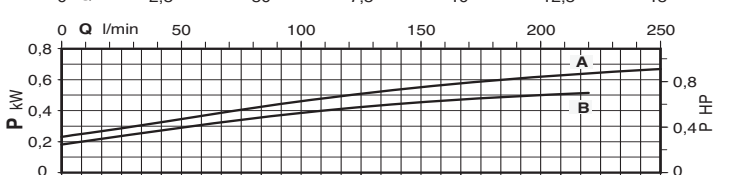
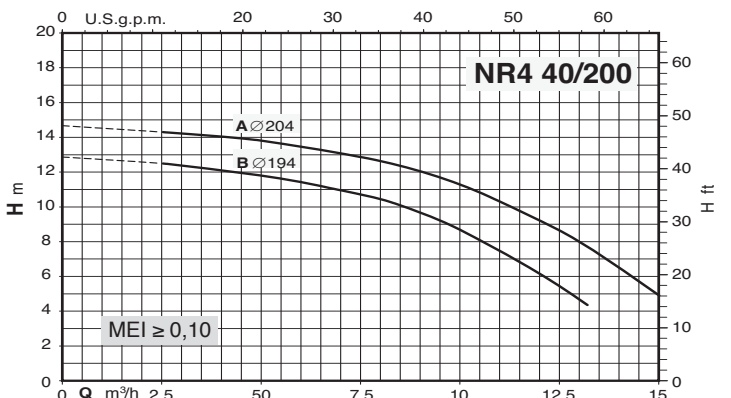
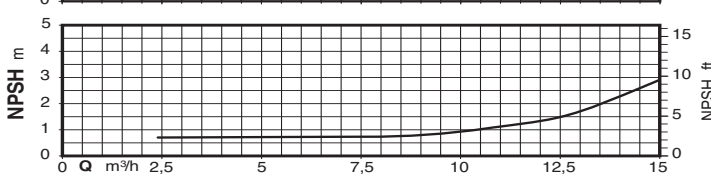
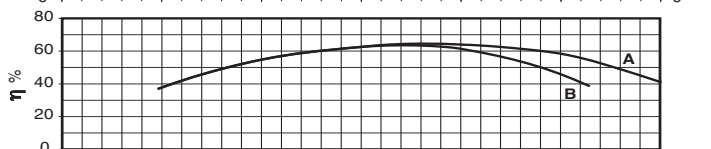
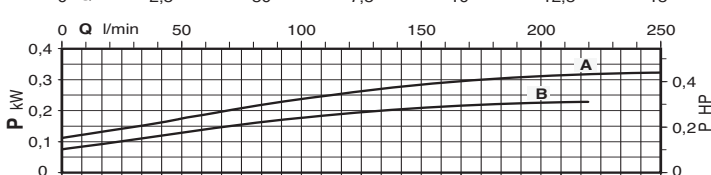
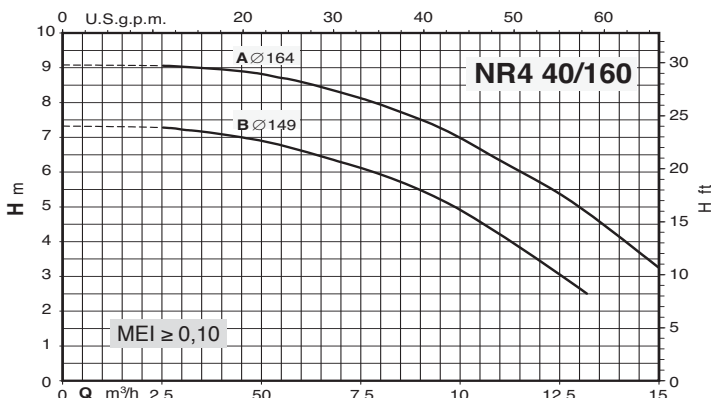
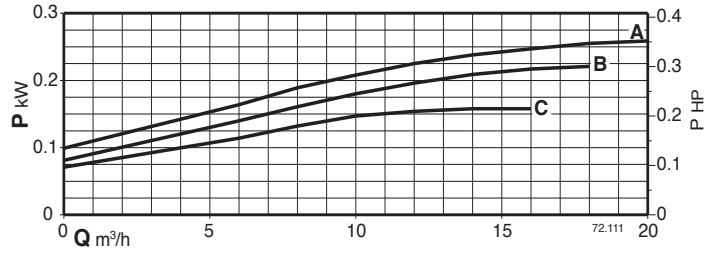
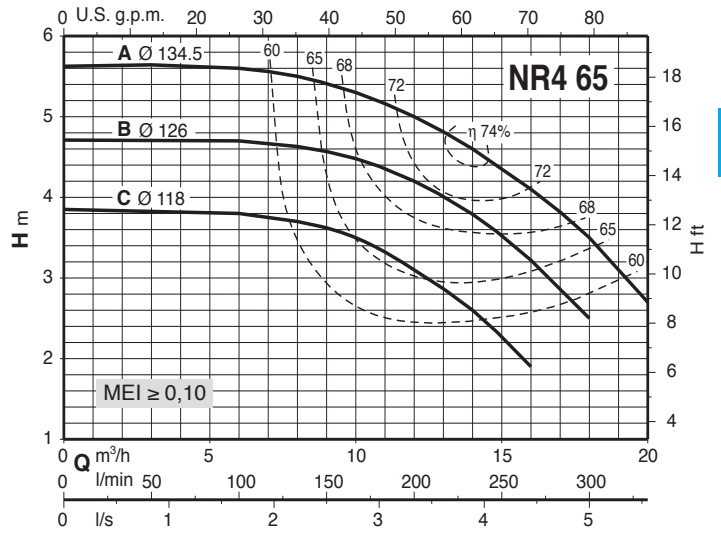
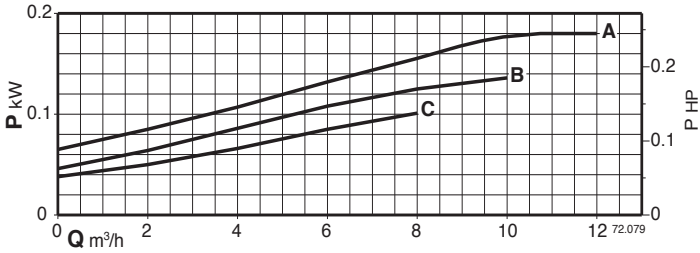
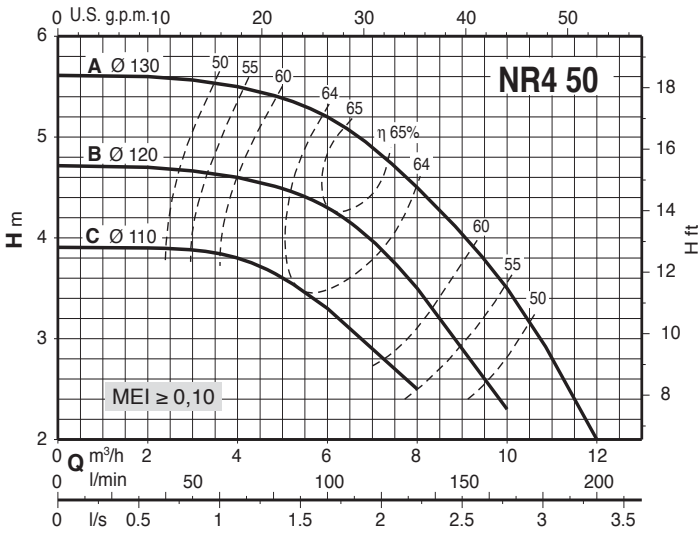
### Characteristic curves $n \approx 2900$ rpm



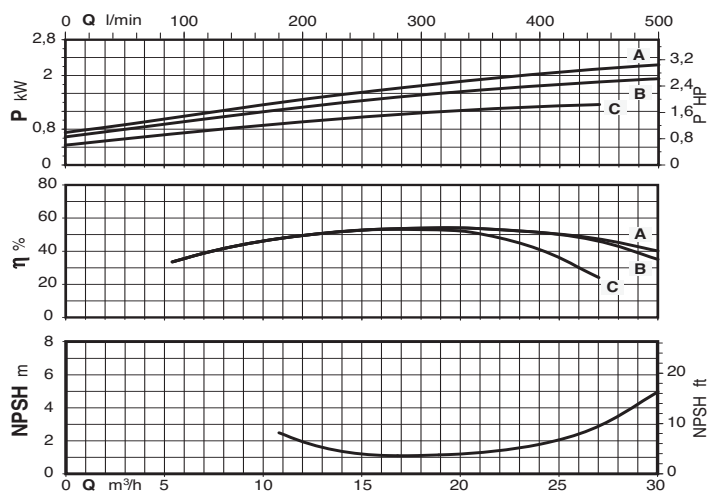
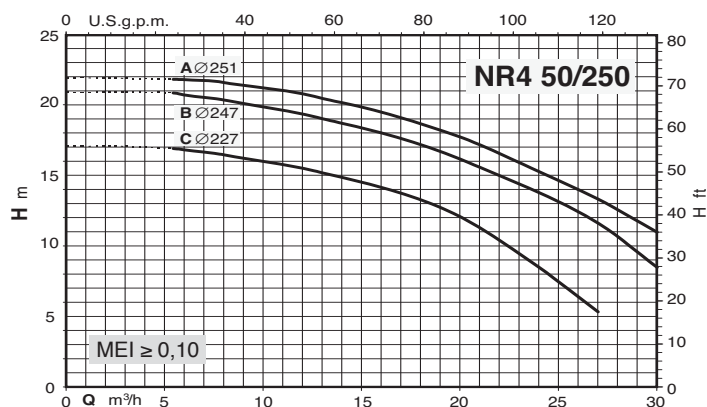
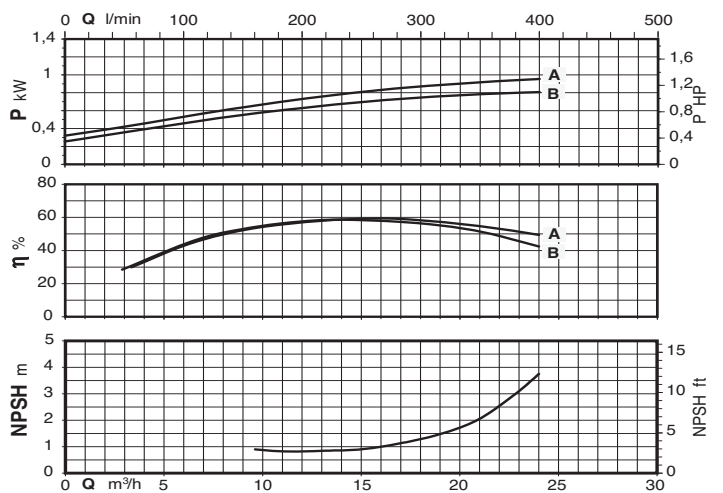
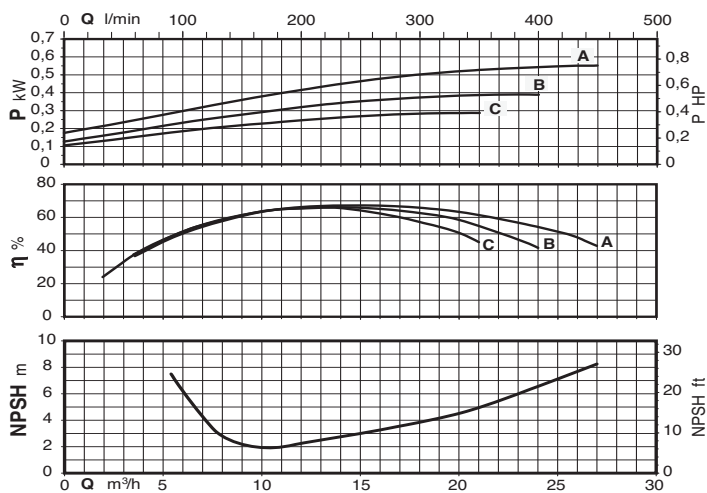
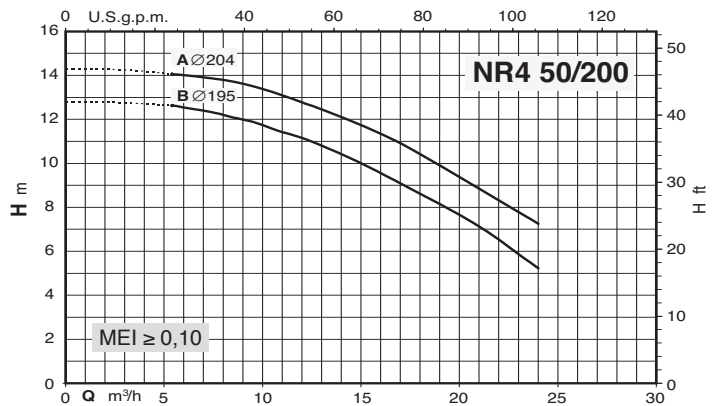
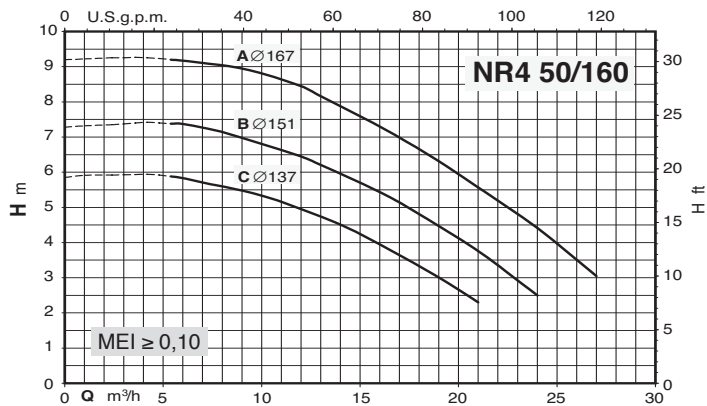
### Characteristic curves $n \approx 2900$ rpm



### Characteristic curves $n \approx 1450$ rpm

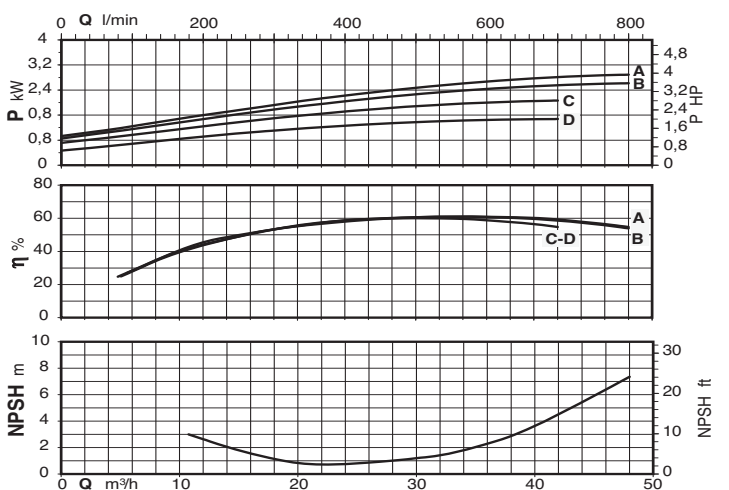
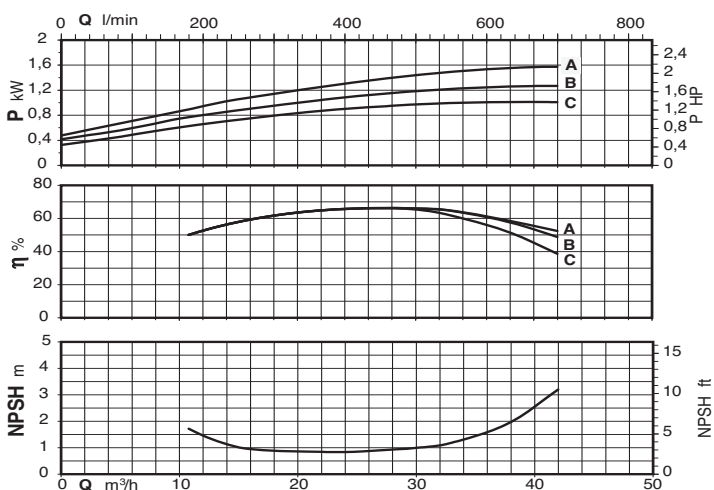
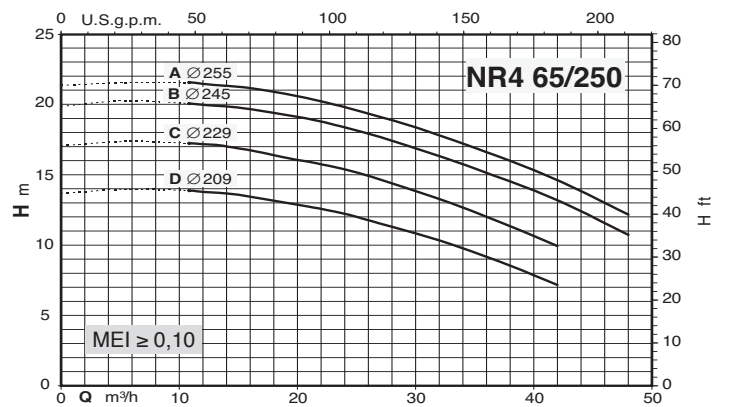
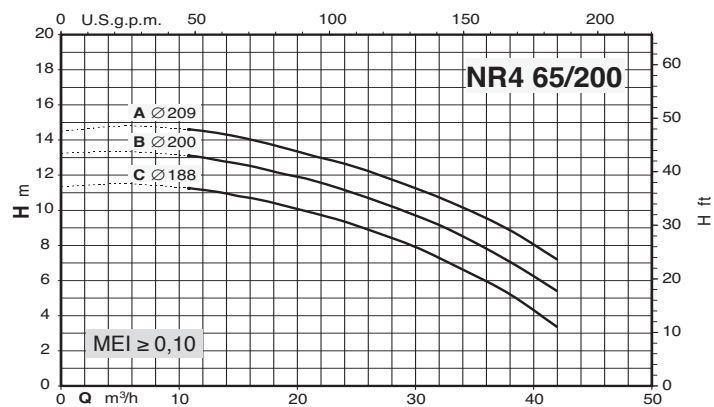
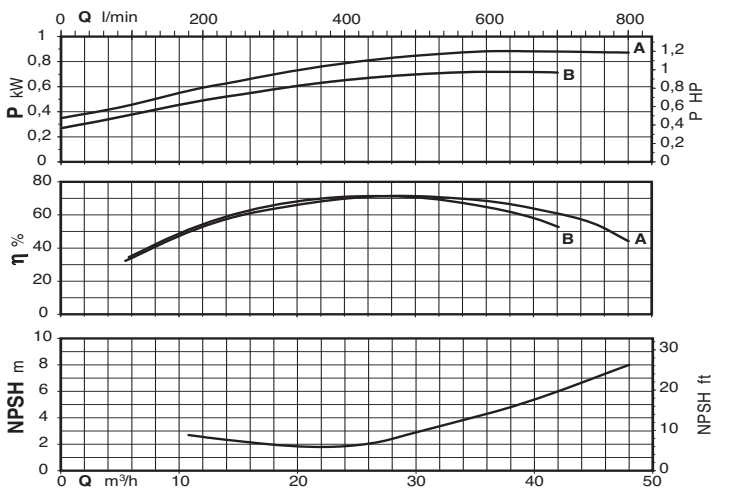
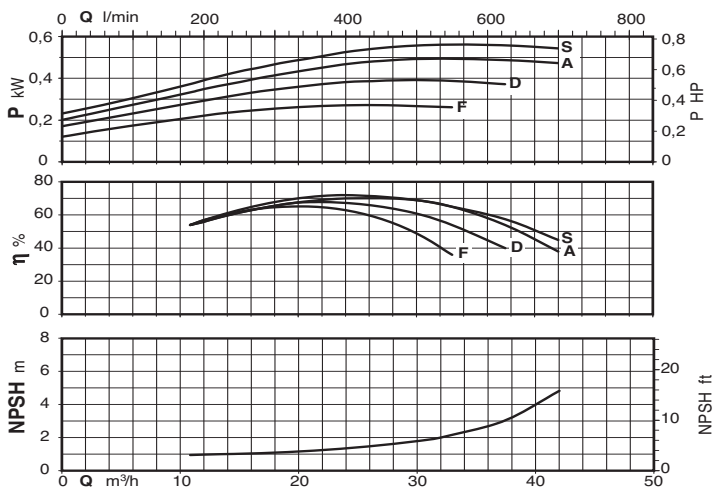
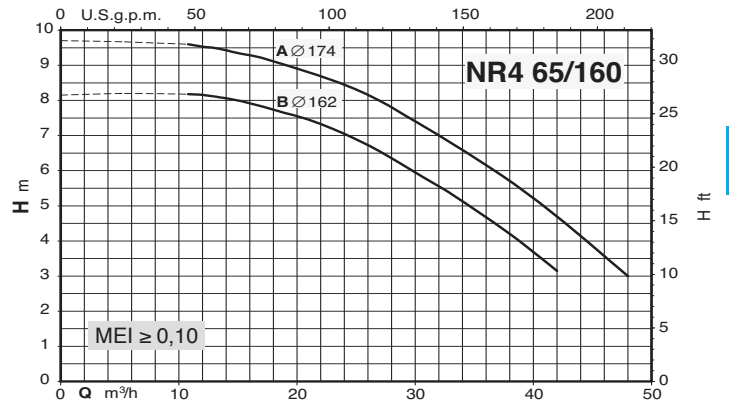
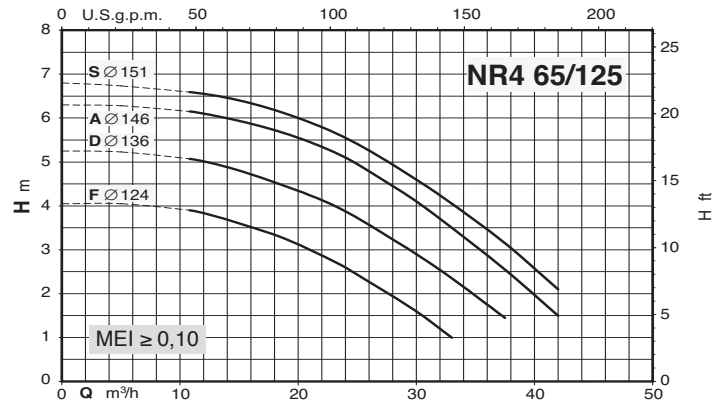


### Characteristic curves $n \approx 1450$ rpm

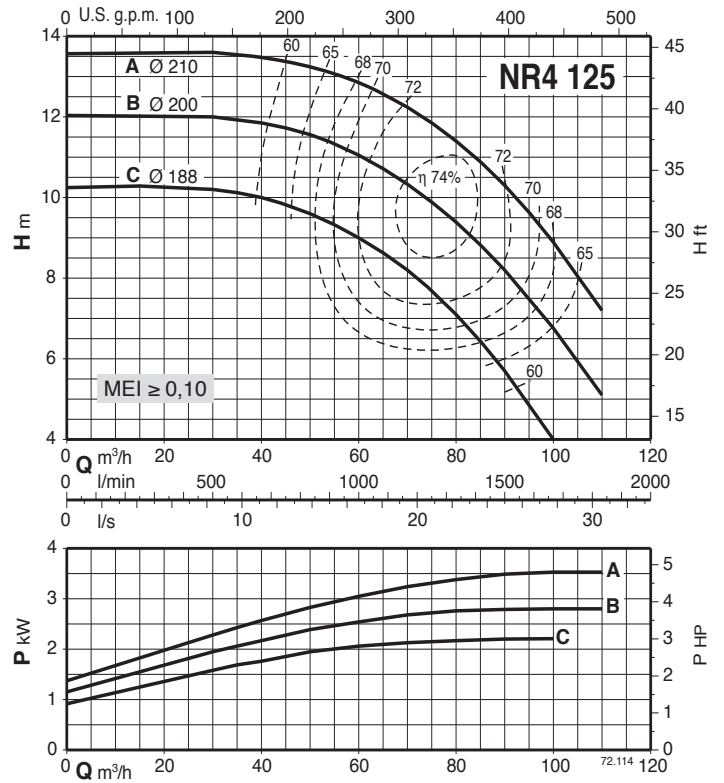
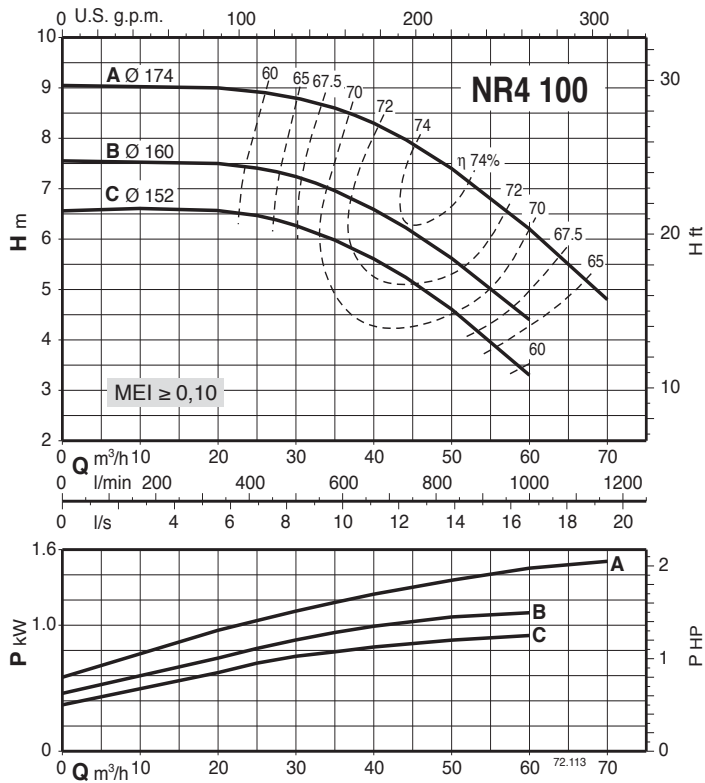




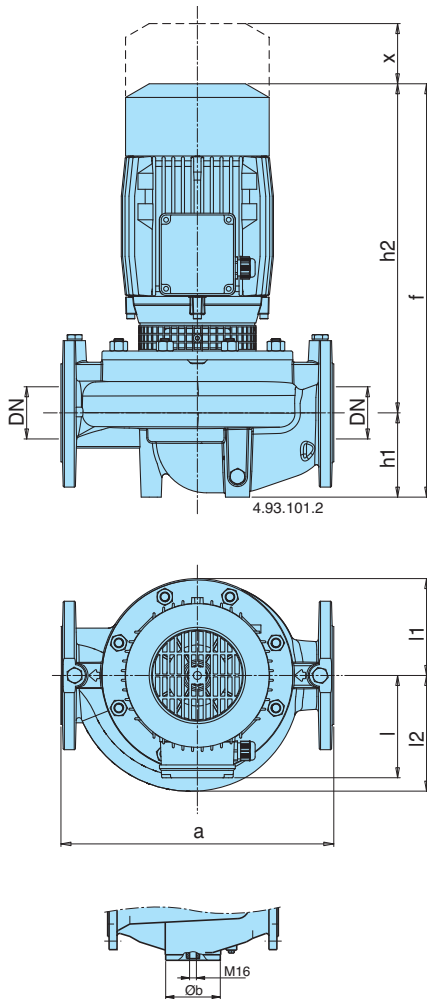
### Characteristic curves $n \approx 1450$ rpm



### Characteristic curves $n \approx 1450$ rpm



### Dimensions and weights

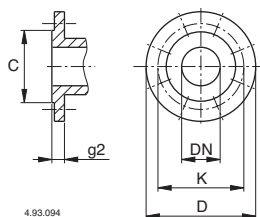


TYPE	mm										kg
	DN	a	f	h1	h2	Øb	l	l1	l2	x	
NR 50D/A-C/A	50	320	360	90	270	98	111	93	100	70	29,5-30
NR 40/125A-B-C	40	320	420	81	339	-	128	93	98	100	29,5-27,5-26,5
NR 40/160B	40	320	430	81	349	-	128	119	119	75	35,0
NR 40/160A	40	320	470	81	389	-	128	119	119	75	40,0
NR 40/200A-B	40	440	496	81	430	-	138	140	140	75	57,5 - 57
NR 50/125C-F	50	340	437	90	347	-	128	96	115	75	31,5-29,5
NR 50/125A/A	50	340	477	90	387	-	128	96	115	75	36,1
NR 50/160C/A	50	340	480	90	390	-	128	120	128	75	41,6
NR 50/160A/A-B/A	50	340	506	90	416	-	138	120	128	75	51,8-50,5
NR 50/200D/A	50	440	516	100	416	-	138	140	140	80	59,7
NR 50/200A/A-B/A	50	440	544	100	444	-	160	140	140	80	77,2-69,7
NR 50/250B/A-C/A	50	440	657	100	557	-	185	175	175	85	121-114
NR 50/250A/A	50	440	732	100	632	-	185	175	175	85	149,5
NR 65/125F/A	65	340	494	105	389	-	128	121	145	95	46
NR 65/125S/A-A/A-D/A	65	340	520	105	415	-	138	121	145	95	56,1-56,1-54,6
NR 65/160A/A-B/A	65	340	552	105	447	-	160	121	142	95	74-67,5
NR 65/200A/A-B/A	65	475	666	105	561	-	185	140	153	90	114-108
NR 65/200S/A	65	475	741	105	636	-	185	140	153	90	142,5
NR 65/250C/A	65	475	672	105	567	-	185	175	175	90	134
NR 65/250A/A-B/A	65	475	747	105	642	--	185	175	175	90	161-155

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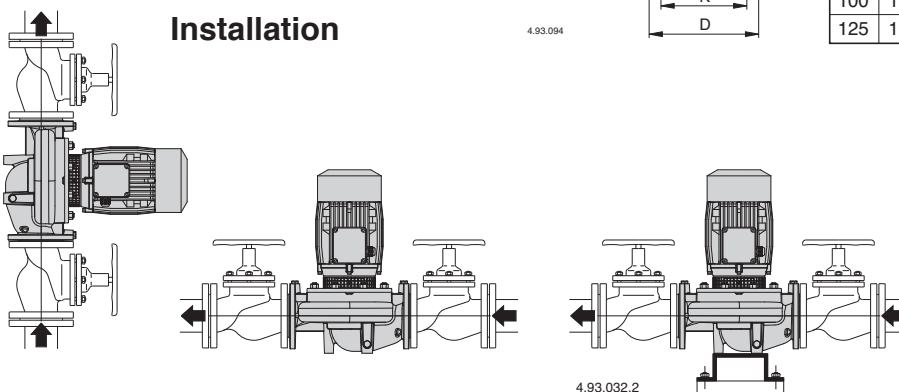
TYPE	mm										kg
	DN	a	f	h1	h2	Øb	l	l1	l2	x	
NR4 50A/A-B/A-C/A	50	320	360	90	270	98	111	93	100	70	24-24-24
NR4 65A/A-B/A-C/A	65	360	370	100	270	118	111	102	114	70	28-28-28
NR4 100B/A-C/A	100	500	523	150	373	162	128	153	173	105	59-59
NR4 100A/A	100	500	549	150	399	162	138	153	173	105	67
NR4 125C/A	125	600	589	170	419	194	138	172	195	120	91,5
NR4 125A/A-B/A	125	600	608	160	438	194	160	172	195	120	110-108
NR4 40/160A-B	40	320	430	81	349	-	128	119	119	75	31,5 - 31
NR4 40/200A-B	40	340	430	81	349	-	128	140	140	75	43 - 39,5
NR4 50/160A/A-B-C	50	340	440	90	350	-	128	120	128	75	37,5-35,5-33,5
NR4 50/200A/A-B/A	50	440	490	100	390	-	128	140	140	80	56
NR4 50/250B/A-C/A	50	440	516	100	416	-	138	175	175	85	80-77,5
NR4 50/250A/A	50	440	545	100	445	-	160	175	175	85	93,5
NR4 65/125S/A-A/A-D-F	65	340	454	105	349	-	128	121	145	95	
NR4 65/160A/A-B/A	65	340	497	105	392	-	128	121	142	95	42,7-42,5
NR4 65/200C/A	65	475	510	105	405	-	128	140	153	90	52
NR4 65/200A/A-B/A	65	475	536	105	431	-	138	140	153	90	64,5-60
NR4 65/250C/A-D/A	65	475	526	105	421	-	138	175	175	90	75,5-75,5
NR4 65/250A/A-B/A	65	475	555	105	450	-	160	175	175	90	98-85

Flanges PN 10, EN 1092-2



DN	mm					
	C	K	D	Holes N°	Ø	g2
50	99	125	165	4	19	20
65	118	145	185	4	19	20
80	132	160	200	8	19	22
100	156	180	220	8	19	24
125	184	210	250	8	19	24

### Installation



### Features

#### New Compact Design

A compact structure allows for simple installation even in confined spaces

#### A Unique Design

An innovative guard (patented) prevents contact with rotating parts, providing protection to the end user whilst allowing for inspection of the mechanical seal.

#### Advanced hydraulics

Optimum impeller geometry provides maximum efficiency and excellent suction characteristics.

#### Silent operation

Specially designed fluid ducts provide very quiet operation

#### Exceptional Fluid Dynamics

The fluid dynamics through the impeller and casing are designed to minimize losses and increase performance.

