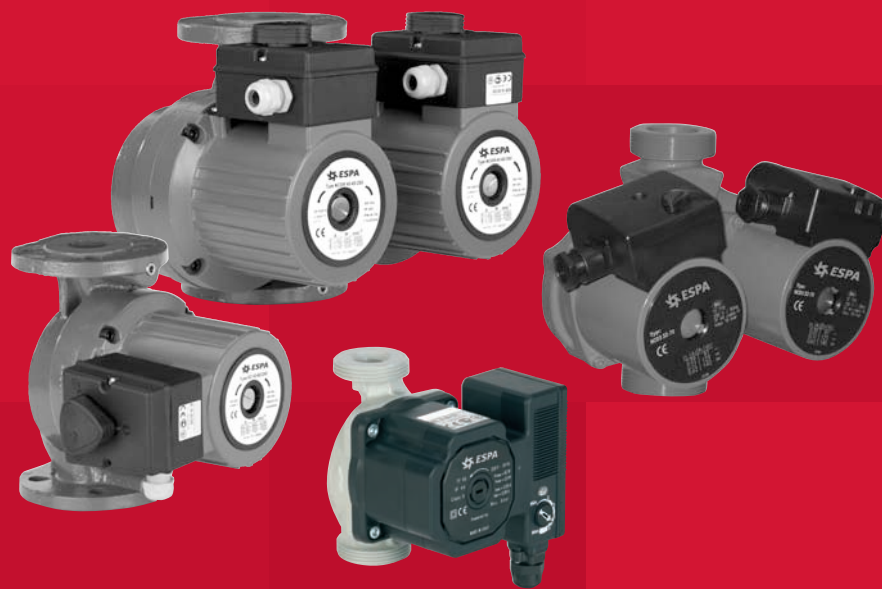


R Series

Wet Running
Circulators



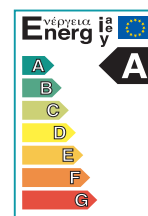


Espa



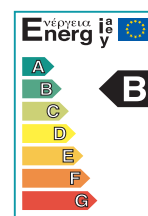
RE...1

High Efficiency Energy Circulating Pumps (n curves)



R...1

High Efficiency Energy Circulating Pumps (1 curve)



R3...1

Three speeds circulating pumps with threaded ports



R3...2

Three speeds circulating pumps with threaded ports



RS3...1

Circulating pumps for sanitary hot water



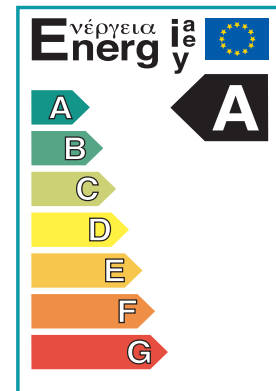
R...1

Three speeds circulating pumps with flanges



R...2

Three speeds circulating twin pumps with flanges



Construction

With the new RE...1 series Espa wishes to introduce a new standard in domestic hot water circulating systems.

Only one high efficiency, energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by one on board inverter suitable for small domestic heating systems.

Brass or cast iron unions on request.

Benefits

- energy efficiency class: A
- high savings
- low consumption
- n flat curves in a wide working area
- low noise
- easy adjustment of right working point
- compact dimensions
- self cleaning

Benefits to distribution

- only one circulating pump to use and install
- less transportation and logistic cost
- less spare parts requirement

Technical data

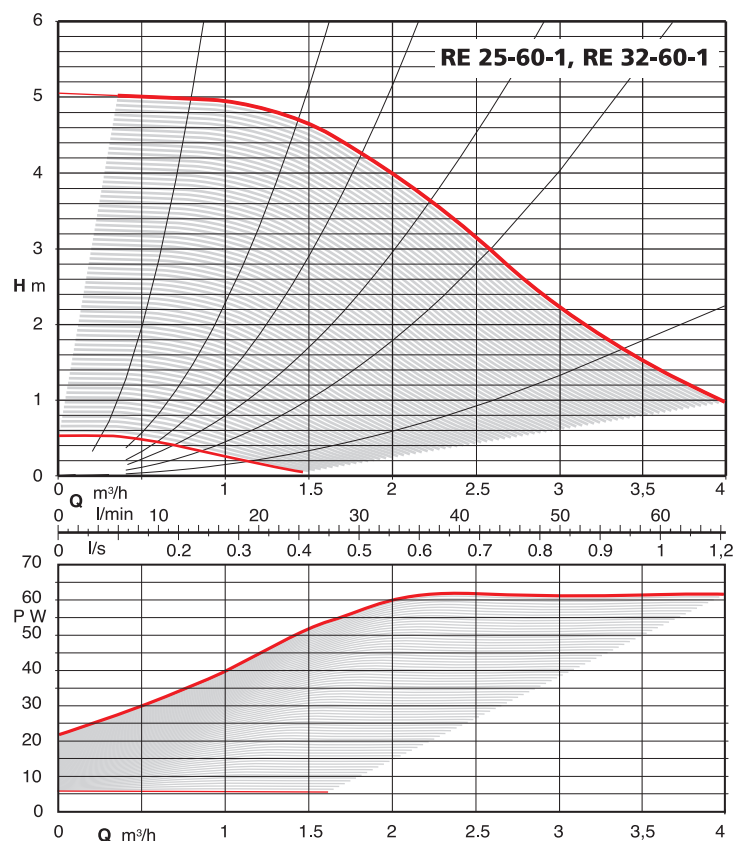
- Liquid temperature from +2 °C to +95 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure: 0,5 bar at 95 °C
- Maximum glycol quantity: 40%
- EMC according to: EN 55014-1, EN 61000-3-2, EN 55014-2
- Connections: threaded ports ISO 228: G 1 1/2, G 2

Motor

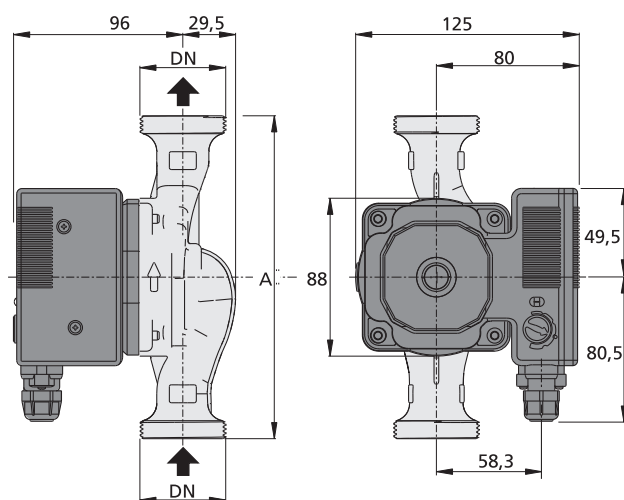
- Synchronous motor with permanent magnet.
- Motor: variable speed
 - Standard voltage: single-phase 230 V (-10%;+6%)
 - Frequency: 50 Hz - Protection: IP 44
 - Insulation class: H - Class II appliance
 - Overload protection (jammed rotor):
 - 1) automatic protection with electronic rotor release
 - 2) Overload thermal protector
 - Cable : phases and neutral
 - Constructed in accordance with: EN 60335-1, EN 60335-2-51

RE...1

Characteristic curves



Dimensions and weights

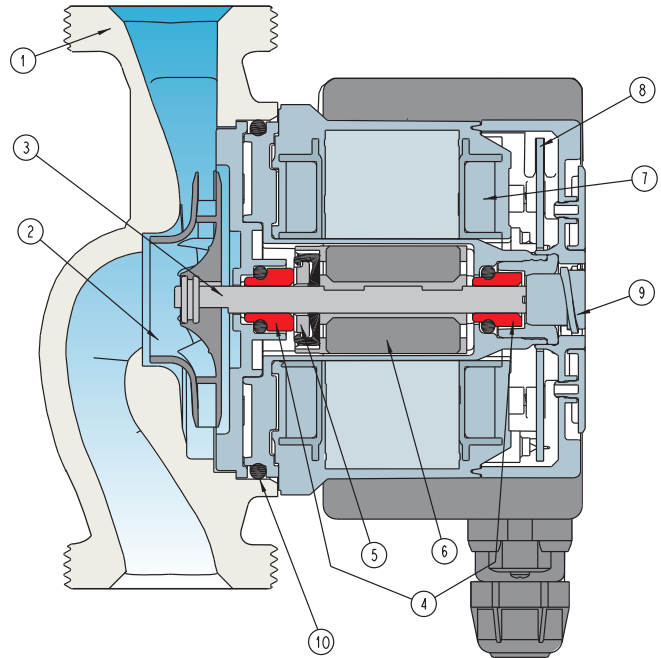


	DN	230V		P1		mm	kg
		A max	A min	W max	W min		
RE 25-60/130-1	G 1 1/2	0,50	0,06	62	5,9	130	2,05
RE 25-60/180-1	G 1 1/2	0,50	0,06	62	5,9	180	2,20
RE 32-60/180-1	G 2	0,50	0,06	62	5,9	180	2,33

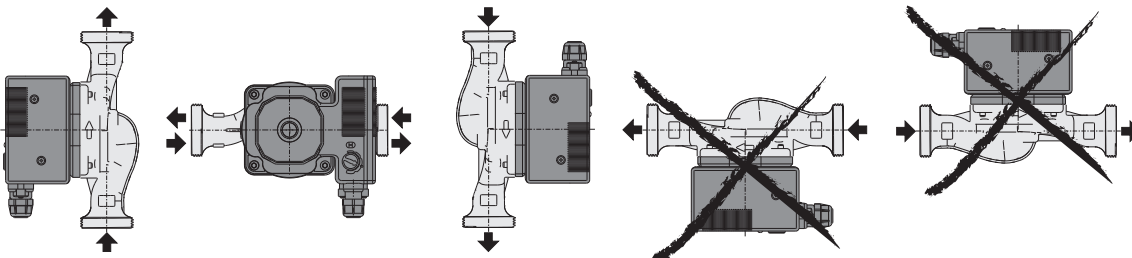
RE...1

Materials

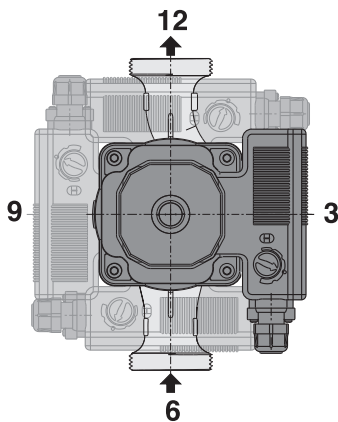
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Composite / Ferrite
Winding	7	Copper wire
Electronic card	8	-
Plug	9	Composite
Gasket	11	EPDM



Installation



Terminal box arrangement



Unions

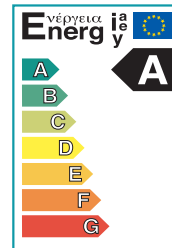
	DN	DN1	kg
KIT G 1 1/2 - G 1 (RE 25..)	G 1 1/2	G 1	0,41 x 2
KIT G 2 - G 1 1/4 (RE 32..)	G 2	G 1 1/4	0,55 x 2



RE...1

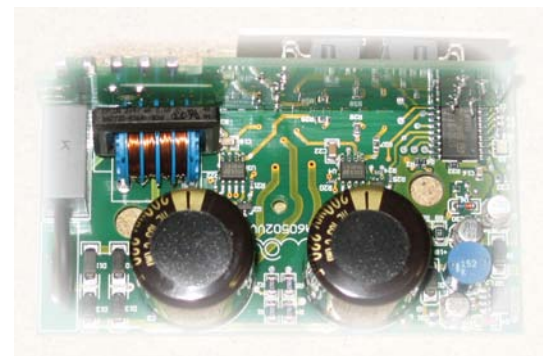
CONSUMPTION

The circulating pump RE...1 is included in the class A of energy efficiency with an energy saving of about 80% compared with a traditional circulating pump.



SAFETY AND PRACTICALITY

Reliable electronics guarantee the perfect operation of the electropump with double electrical insulation Class II motor for greatest safety for users. The reduced temperatures of the motor provide for the use of materials, which allow for an electropump with high electrical insulation, by eliminating the risk of dangerous electrical losses when compared to traditional pumps.



Interchangeability

The Espa circulating pump has the same axis base of other traditional pumps.

QUALITY/PRICE

An extraordinarily advantageous quality/price ratio.

DISPLAY

- **green led:** correct operation
- **pulse green led:** adjustment of working point
- **red led:** possible fault (ex: locked-rotor)

SELECTOR

A wide working area with n curves allowing to select the correct operation point of the installation.



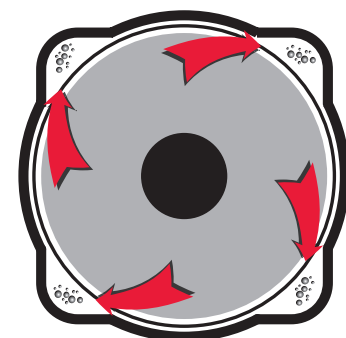
Choosing the correct operation point

- highest speed: max
- lowest speed: min
- black dot factory setting: equivalent to the operating point of 80% of the domestic applications (3.5 m at 1000 l/h).
- Example : 5 is equivalent to the curve of a circulating pump of 5 m (4 m at 1000 l/h)

RELIABILITY

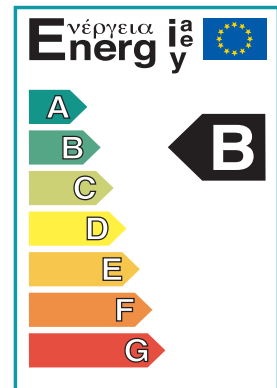
The **patented** "squared chamber" eliminates any possibility of rotor stoppage.

- 1- The operational characteristics of the synchronous motor allow to larger gap between stator and rotor, compared to an asynchronous motor, without any reduction of efficiency.
- 2- Being a permanent ceramic magnet, the rotor is less subject to limestone deposit than traditional metal rotors.
- 3- The "intelligent" electronics can sense any rotation difficulties: in such circumstances the motor is turned over several times at a higher torque than in traditional motors.



Patented
Escape routes for impurities inside the rotor chamber

Always guaranteeing proper starting.

High Efficiency Energy Circulating Pumps (1 curve)

Construction

Circulating pumps with a permanent magnet Synchronous motor. Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line). Brass or cast iron unions on request.

Technical data

- Liquid temperature from +2 °C to +95 °C
- Ambient temperature from +2 °C to +40 °C
- Maximum permissible working pressure: 6 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure \leq 43 dB (A).
- Minimum suction pressure: 0,3 bar at 95 °C
- Maximum glycol quantity: 40%
- EMC according to: EN 55014-1, EN 61000-3-2, EN 55014-2
- Connections: threaded ports ISO 228: G 1 1/2, G 2

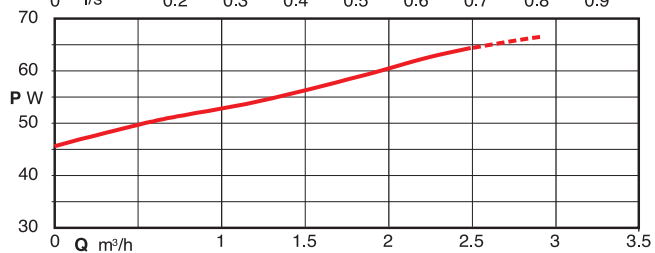
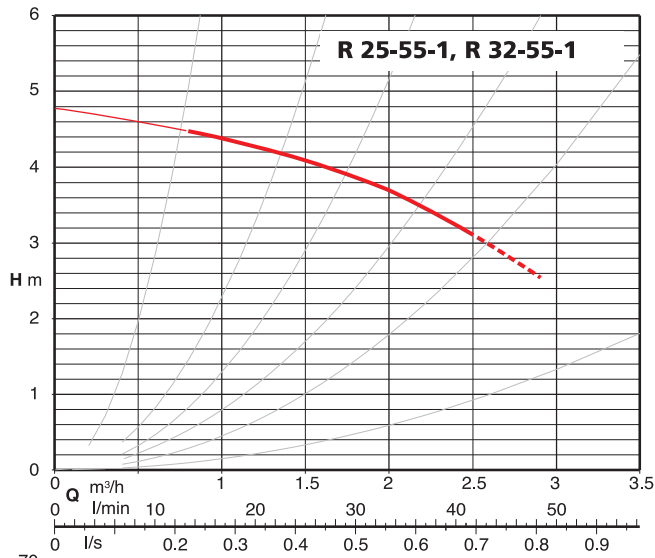
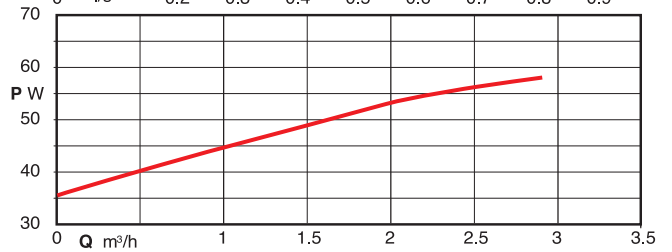
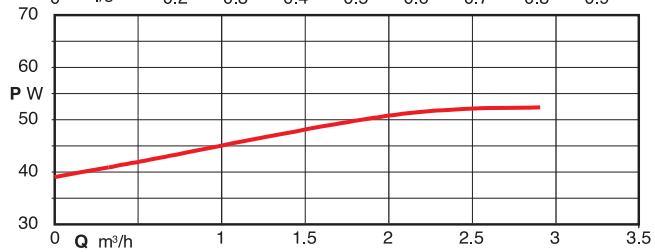
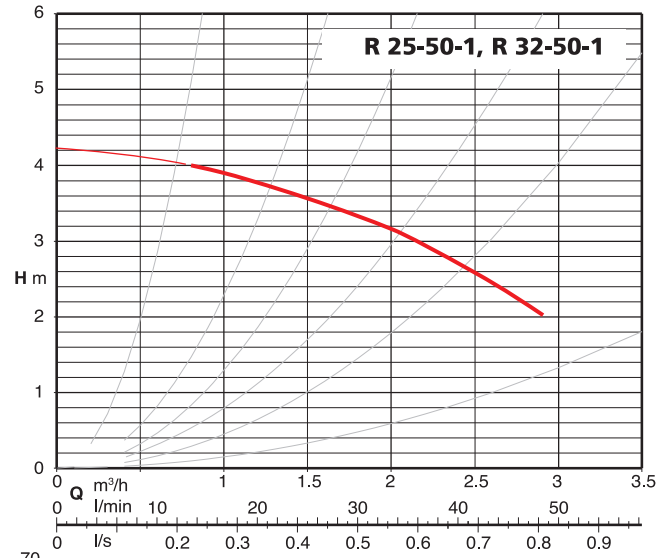
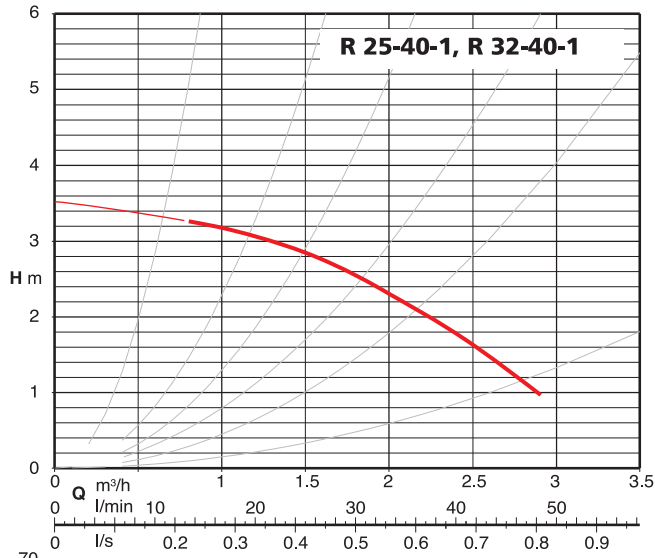
Technical data
Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials.
For heating plants.
For circulation plants.

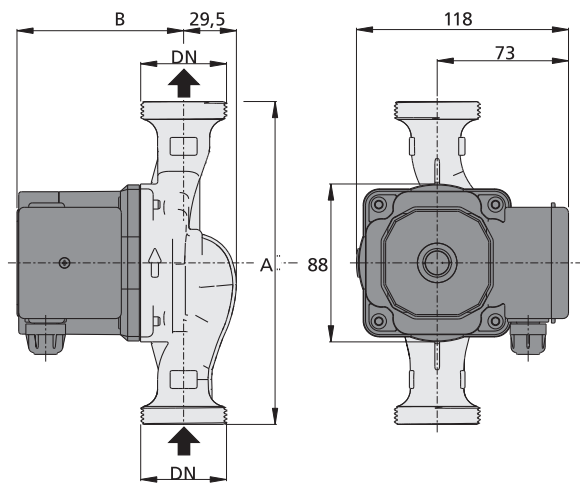
Motor

- Synchronous motor with permanent magnet.
- Motor: 3000 rpm constant
 - Standard voltage: single-phase 230 V (-10%;+6%)
 - Frequency: 50 Hz
 - Protection: IP 44
 - Insulation class: H
 - Class II appliance
 - Overload protection (jammed rotor):
 - 1) automatic protection with electronic rotor release
 - 2) Overload thermal protector
 - Cable : phases and neutral
 - Constructed in accordance with: EN 60335-1, EN 60335-2-51

R...1



Dimensions and weights

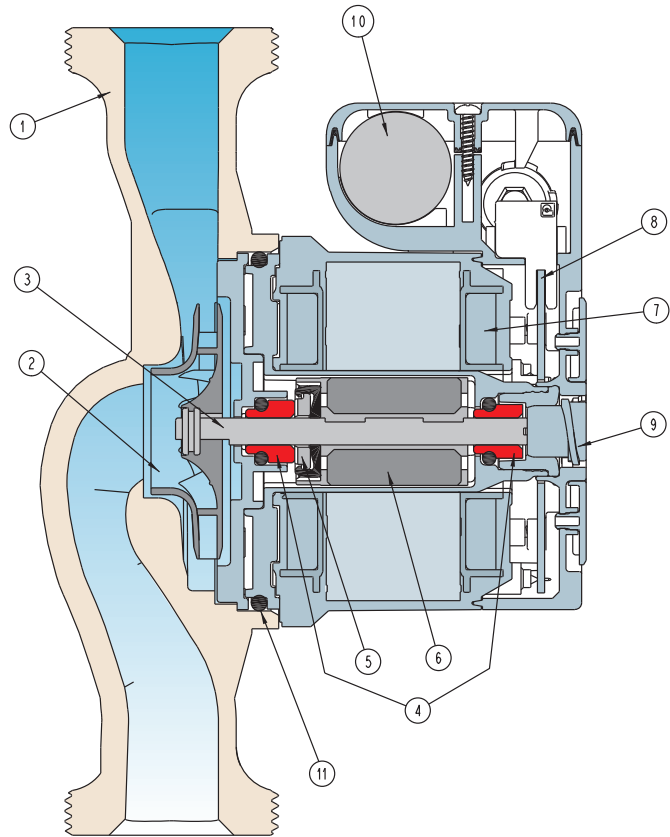


	DN	230V	P1	mm		kg
		A		W	A	
R 25-40/130-1	G 1 1/2	0,23	53	130	93	2,10
R 25-40/180-1	G 1 1/2	0,23	53	180	93	2,25
R 32-40/180-1	G 2	0,23	53	180	93	2,38
R 25-50/130-1	G 1 1/2	0,26	58	130	103	2,39
R 25-50/180-1	G 1 1/2	0,26	58	180	103	2,53
R 32-50/180-1	G 2	0,26	58	180	103	2,67
R 25-55/130-1	G 1 1/2	0,29	65	130	103	2,39
R 25-55/180-1	G 1 1/2	0,29	65	180	103	2,53
R 32-55/180-1	G 2	0,29	65	180	103	2,67

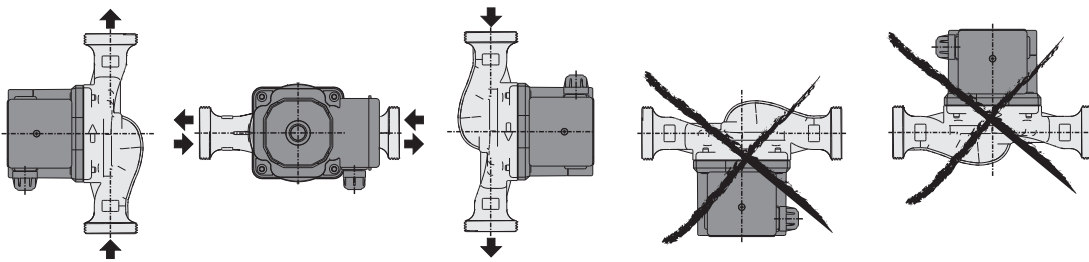
R...1

Materials

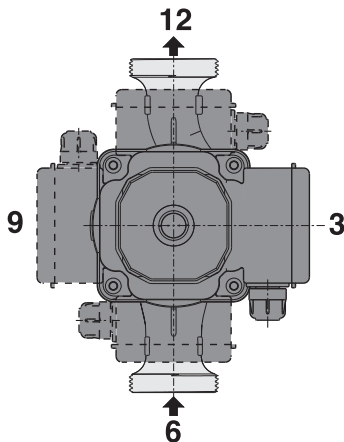
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Stainless steel
Bearings	4	Spezialkohle
Thrust bearing	5	Ceramic
Rotor	6	Composite / Ferrite
Winding	7	Copper wire
Electronic card	8	-
Plug	9	Composite
Capacitor	10	-
Gasket	11	EPDM



Installation



Terminal box arrangement



Unions

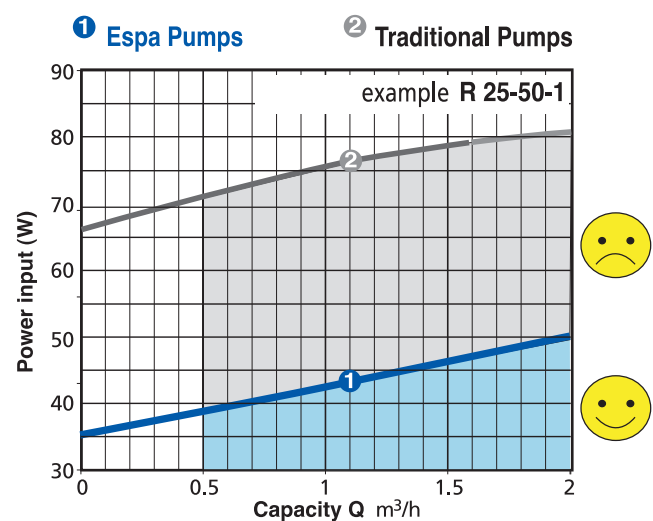
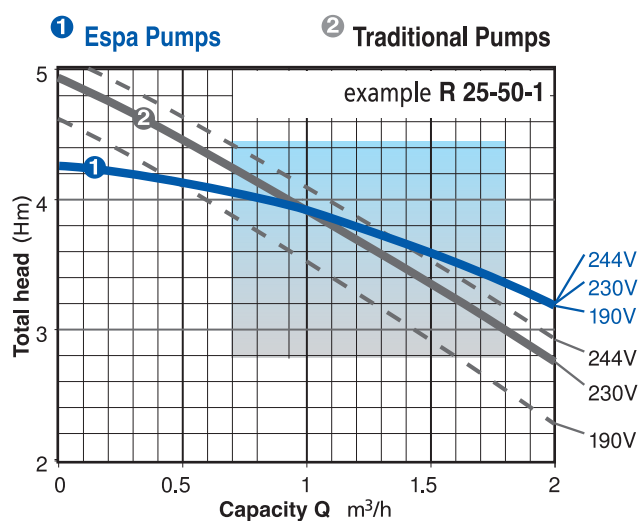
	DN	DN1
KIT G 1 1/2 - G 1 (R 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (R 32..)	G 2	G 1 1/4

R...1

PERFORMANCE

The constant rotation speed of the synchronous motor allows for a reduction of the pressure variations under varying load losses. Moreover, the Espa pumps are not affected by the temperature and the voltage mains.

The traditional pumps can do it only by using sophisticated and expensive electronics.



RELIABILITY

The patented "squared chamber" eliminates any possibility of rotor stoppage.

- 1- The operational characteristics of the synchronous motor allow to larger gap between stator and rotor, compared to an asynchronous motor, without any reduction of efficiency.
- 2- Being a permanent ceramic magnet, the rotor is less subject to limestone deposit than traditional metal rotors.
- 3- The "intelligent" electronics can sense any rotation difficulties: in such circumstances the motor is turned over several times at a higher torque than in traditional motors.

Always guaranteeing proper starting.

SAFETY AND PRACTICALITY

Reliable electronics guarantee the perfect operation of the electropump with double electrical insulation Class II motor for greatest safety for users.

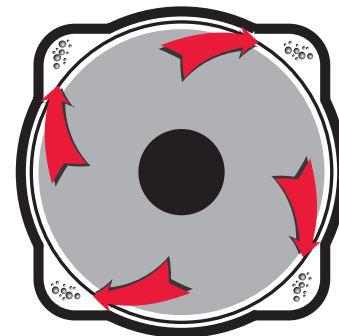
The reduced temperatures of the motor provide for the use of materials, which allow for an electropump with high electrical insulation, by eliminating the risk of dangerous electrical losses when compared to traditional pumps.

Interchangeability

The Espa circulating pump has the same axis base of other traditional pumps.

QUALITY/PRICE

An extraordinarily advantageous quality/price ratio.



Patented
Escape routes for impurities inside the rotor chamber



R3...1

Three speeds circulating pumps with threaded ports



Construction

Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).
Brass or cast iron unions on request.

Materials	R3 ..40-50-60	R3 ...70-80-85-120
Pump casing	Cast iron	Cast iron
Impeller	Composite	Composite
Shaft	Stainless steel	Ceramic

Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials.
Civil and industrial heaty systems.

Operating conditions

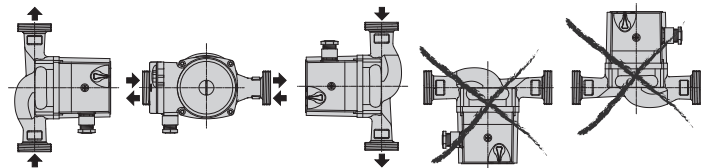
Liquid temperature from +5 °C to +110 °C (from -10 °C to +110 °C for R3 ..-70 and R3 ..-80).
Ambient temperature up to 40 °C.
Sound pressure ≤ 43 dB (A).
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require rechecking of the pumping data).
Maximum permissible working pressure 10 bar.

Type	Minimum suction pressure: bar		
	Temperature		
	50 °C	80 °C	110 °C
R3 ..-40,50,60	0,05	0,4	1,1
R3 ..-70	0,05	0,4	1,1
R3 ..-80,85,120	0,05	0,4	1,2

Motor

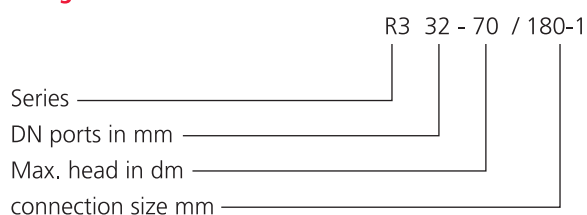
2-pole induction motor, 50 Hz.
Three adjustable speeds.
R3: single-phase 230 V.
Insulation class H.
Protection IP 44.

Installation

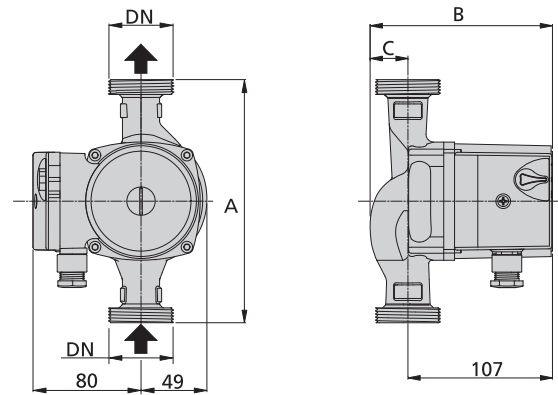
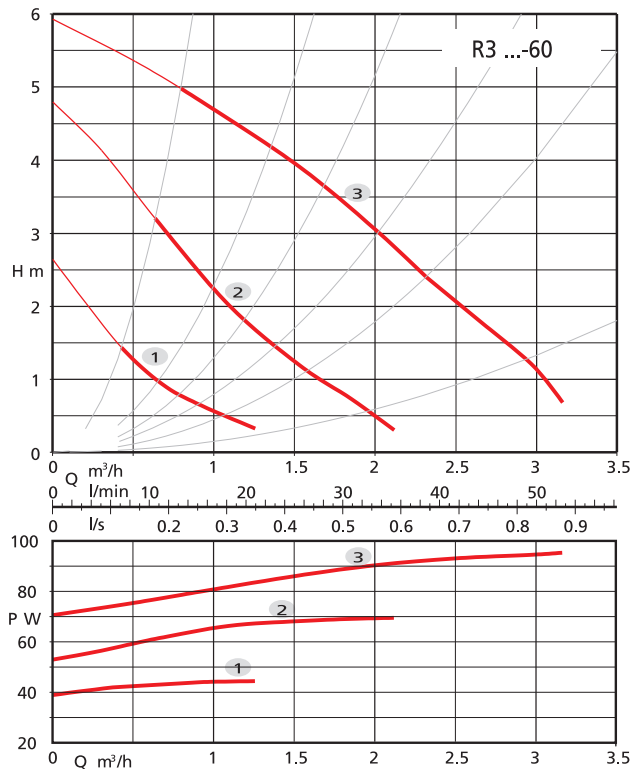
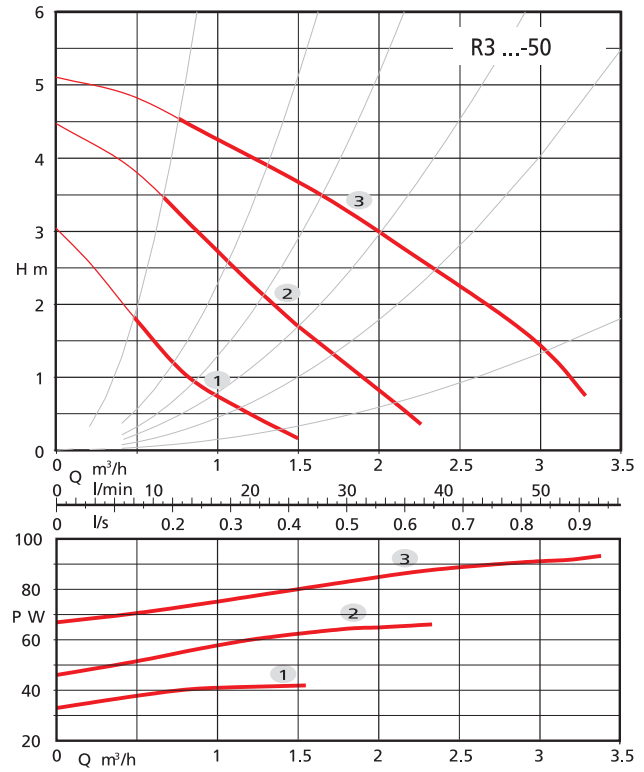
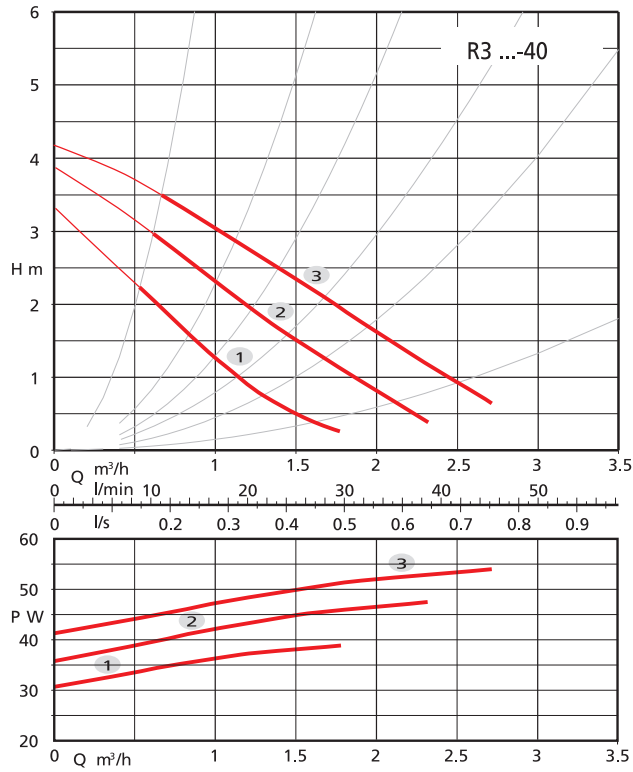


Bocchettoni Unions Rohrverschraubung Manchons Uniones		DN	DN1
TIPO - TYPE - TYP			
KIT G 1 - G 1/2	(R3 15..)	G 1	G 1/2
KIT G 1 1/2 - G 1	(R3 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4	(R3 32..)	G 2	G 1 1/4

Designation

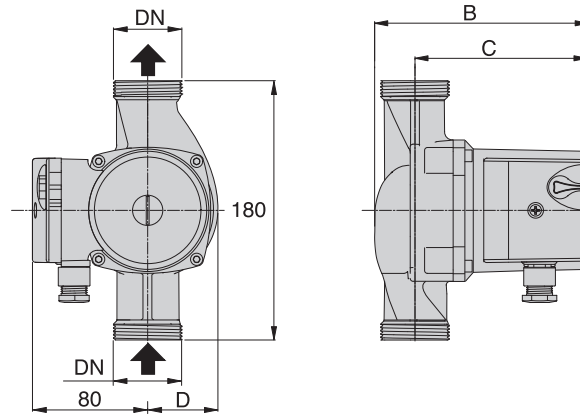
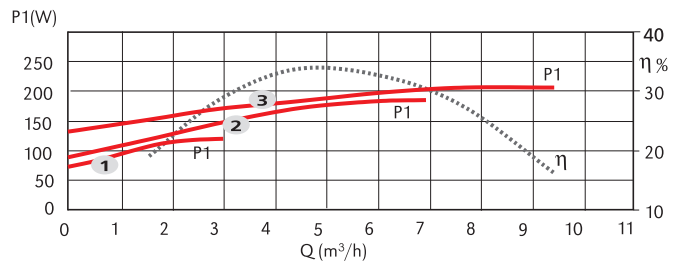
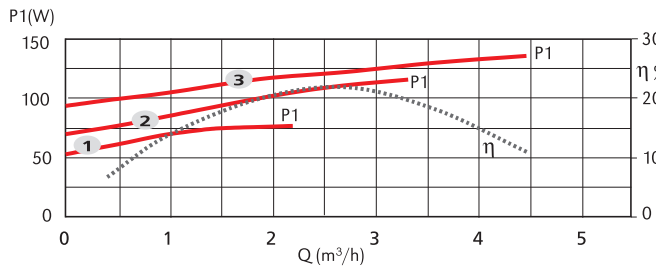
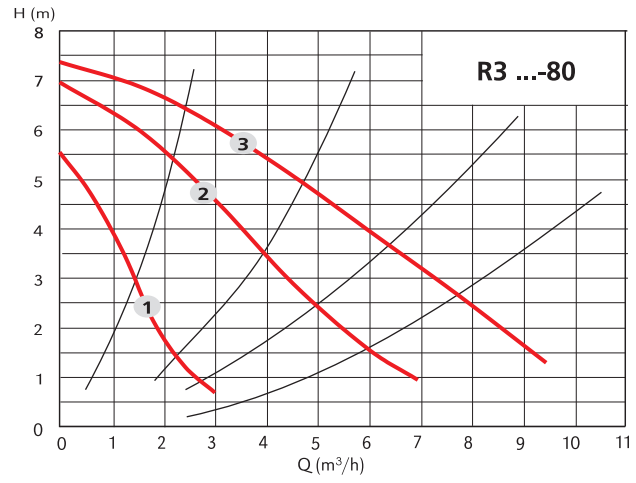
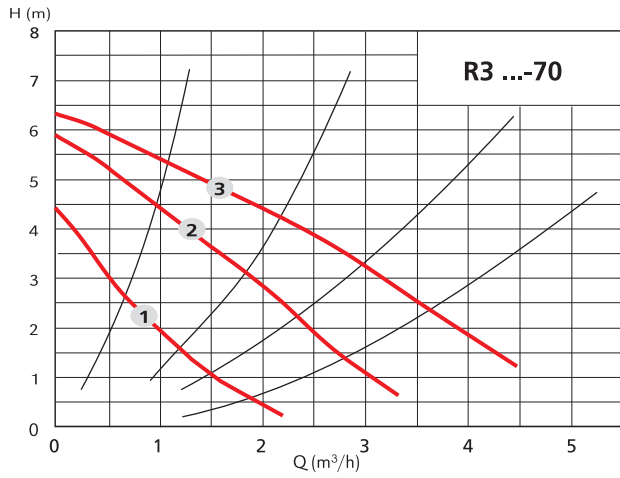


R3...1



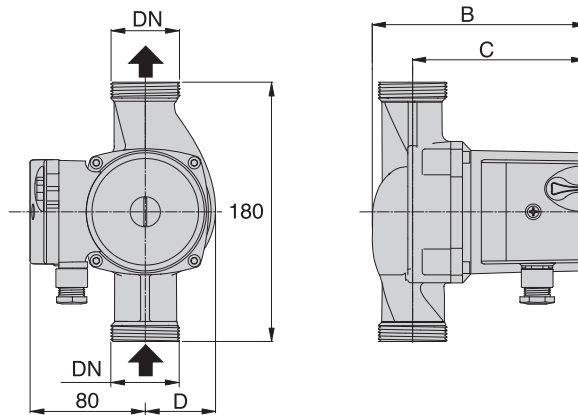
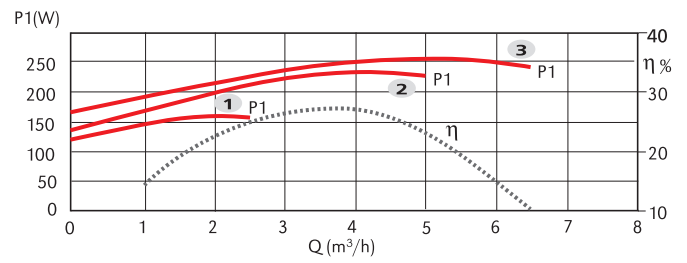
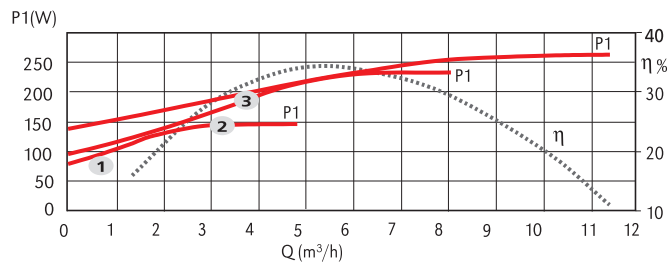
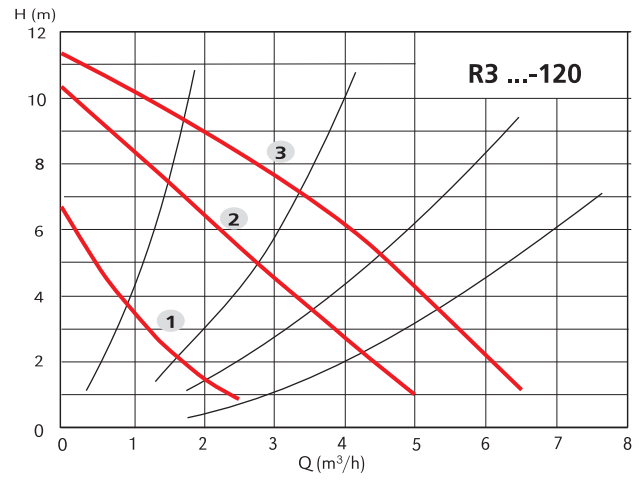
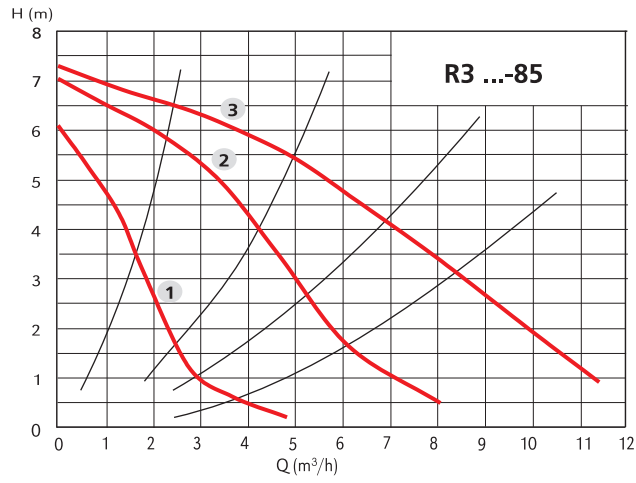
Type	DN	Pos.	P1 (W)	1x 230 V [A]	mm			[kg]
					A	B	C	
R3 15-40/130-1	G 1	3	53	0,23	130	128	21	2,2
R3 25-40/130-1	G 1 1/2	2	47	0,21	130	135	28	2,4
R3 25-40/180-1	G 1 1/2	1	38	0,17	180	135	28	2,6
R3 15-50/130-1	G 1	3	91	0,38	130	128	21	2,2
R3 25-50/130-1	G 1 1/2	2	65	0,28	130	135	28	2,4
R3 25-50/180-1	G 1 1/2	1	42	0,18	180	135	28	2,6
R3 32-50/180-1	G 2	1			180	138	31	3
R3 15-60/130-1	G 1	3	95	0,41	130	128	21	2,2
R3 25-60/130-1	G 1 1/2	2	70	0,30	130	135	28	2,4
R3 25-60/180-1	G 1 1/2	1	44	0,20	180	135	28	2,6
R3 32-60/180-1	G 2	1			180	138	31	3

R3...1



	DN	Pos.	1/min	P1 (W)	1x 230 V [A]	[mm]			[kg]
						B	C	D	
R3 32-85/180-1	G 2	3	-	277	1,2	185	143	58	4,9
		2	-	250	1,16				
		1	-	172	0,85				
R3 32-120/180-1	G 2	3	2480	265	1,15	208	174	68	5,2
		2	2045	251	1,14				
		1	1180	176	0,85				

R3...1



	DN	Pos.	1/min	P1 (W)	1x 230 V [A]	[mm]			[kg]
						B	C	D	
R3 32-85/180-1	G 2	3	-	277	1,2	185	143	58	4,9
		2	-	250	1,16				
		1	-	172	0,85				
R3 32-120/180-1	G 2	3	2480	265	1,15	208	174	68	5,2
		2	2045	251	1,14				
		1	1180	176	0,85				

R3...2

Three speeds circulating twin pumps with threaded ports



Construction

Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).
Brass or cast iron unions on request.

Materials	R3 ..40	R3 ...70-80-120
Pump casing	Cast iron	Cast iron
Impeller	Composite	Composite
Shaft	Stainless steel	Ceramic

Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials.
Civil and industrial heaty systems.

Operating conditions

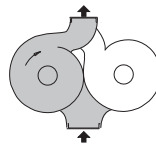
Liquid temperature from +5 °C to +110 °C (from -10 °C to +110 °C for R3 ..-70 and R3 ..-80).
Ambient temperature up to 40 °C.
Sound pressure ≤ 43 dB (A).
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require rechecking of the pumping data).
Maximum permissible working pressure 10 bar.

Type	Minimum suction pressure: bar		
	Temperature		
	50 °C	80 °C	110 °C
R3 ..-40	0,05	0,4	1,1
R3 ..-70	0,05	0,4	1,1
R3 ..-80,120	0,05	0,4	1,2

Motor

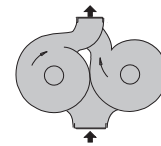
2-pole induction motor, 50 Hz.
Three adjustable speeds.
R3: single-phase 230 V.
Insulation class H.
Protection IP 44.

Operation



Single operation

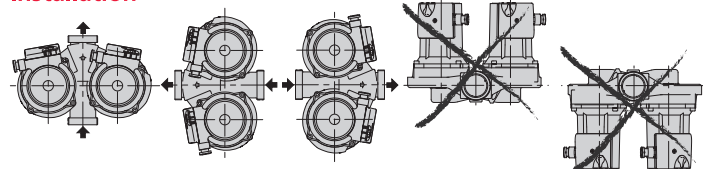
Operation of a single pump chosen by the customer, with the second pump on stand-by



Double operation

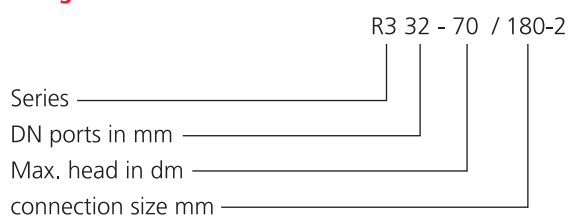
Operation in parallel of the two pumps

Installation

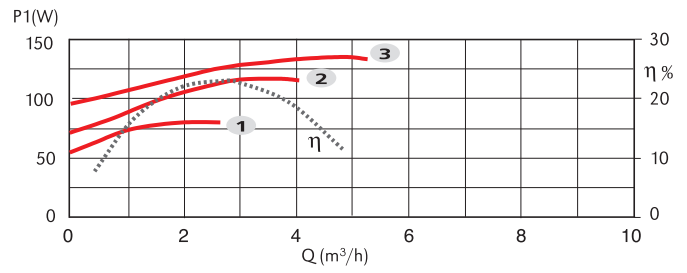
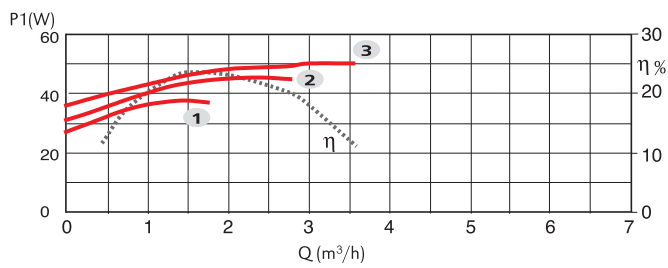
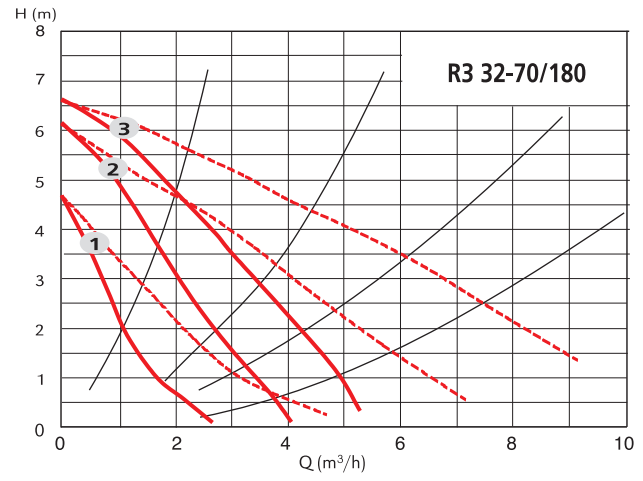
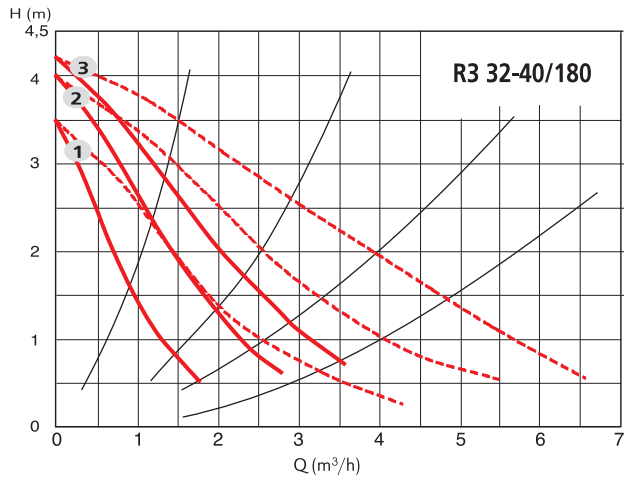


Type	DN	DN1	
KIT G 2 - G 1 1/4 (R3 32..)	G 2	G 1 1/4	

Designation

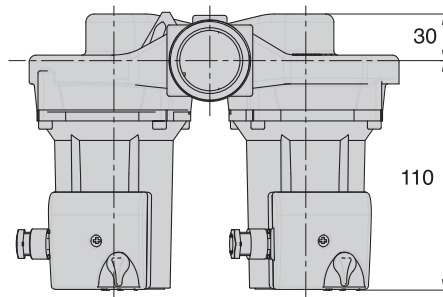
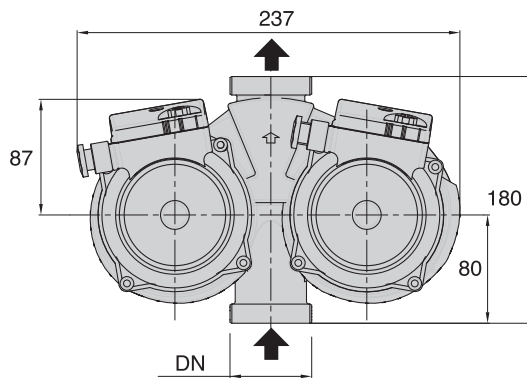


R3...2



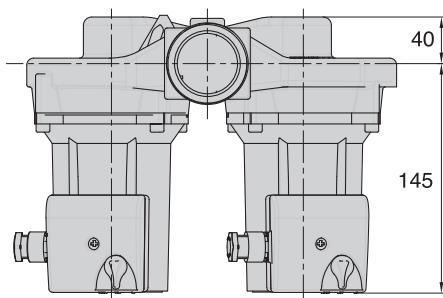
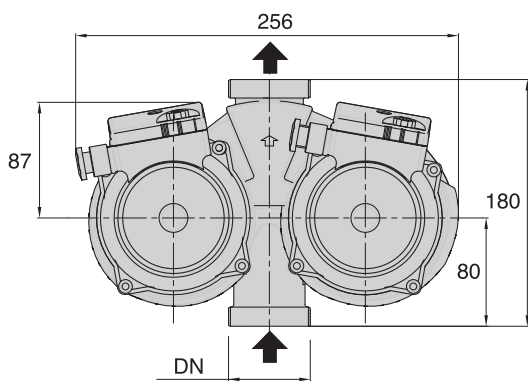
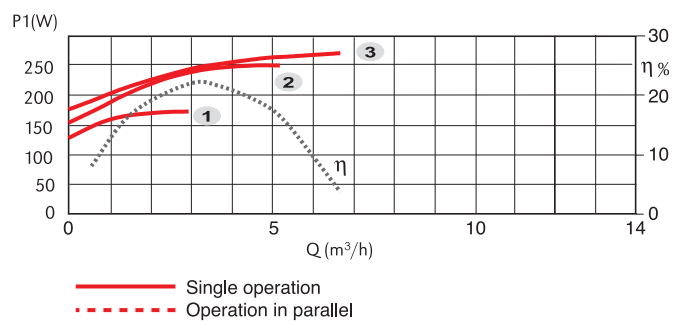
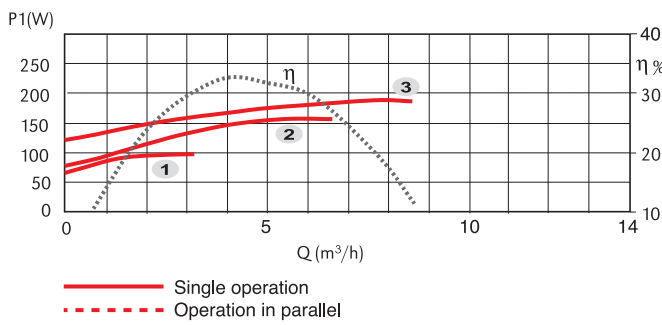
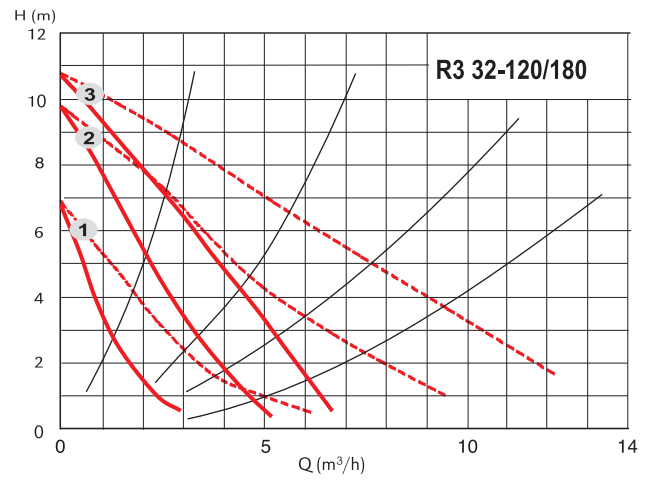
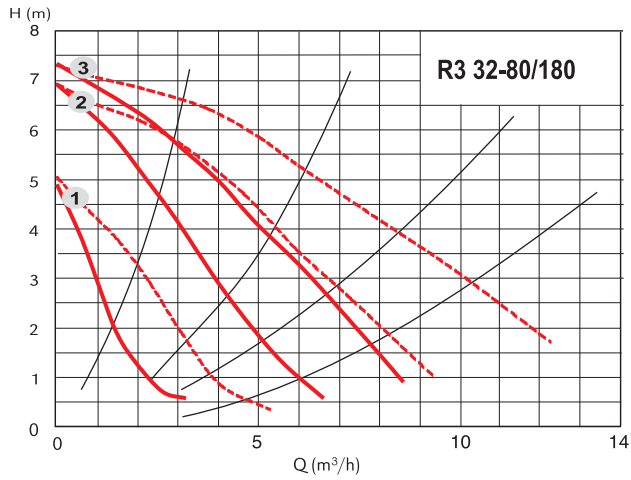
— Single operation
- - - Operation in parallel

— Single operation
- - - Operation in parallel



	DN	Pos.	P1 (W)	1x 230 V [A]	[kg]
R3 32-40/180-2	G 2	3	53	0,23	5,6
		2	47	0,21	
		1	38	0,17	
R3 32-70/180-2	G 2	3	136	0,61	6
		2	116	0,54	
		1	77	0,37	

R3...2



	DN	Pos.	P1 (W)	1x 230 V [A]	[kg]
R3 32-80/180-2	G 2	3	206	0,91	9,6
		2	185	0,88	
		1	120	0,6	
R3 32-120/180-2	G 2	3	265	1,15	10,3
		2	251	1,14	
		1	176	0,85	

Circulating pumps for sanitary hot water



Construction

Bronze pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).
Stainless steel AISI 316 can.
Brass unions on request.

Materials	RS3 ..-40, -50	RS3 ...-70
Pump casing	Bronze	Bronze
Impeller	Composite	Composite
Shaft	Stainless steel	Ceramic
Bearings	Graphite	Ceramic

Applications

Circulation of sanitary hot water.

Operating conditions

Liquid temperature from +5 °C to +65 °C.

Ambient temperature up to 40 °C.

Sound pressure ≤ 43 dB (A).

Minimum suction pressure: 0,05 bar at 50 °C

Maximum permissible working pressure 10 bar.

Motor

2-pole induction motor, 50 Hz.

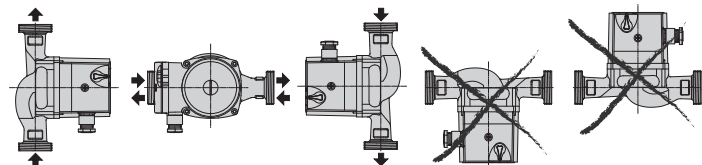
Three adjustable speeds.

RS3: single-phase 230 V.

Insulation class H.

Protection IP 44.

Installation

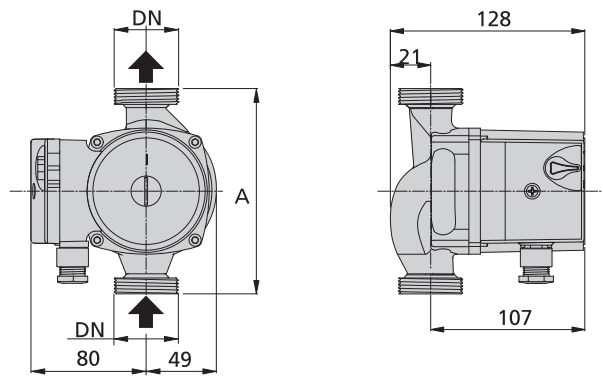
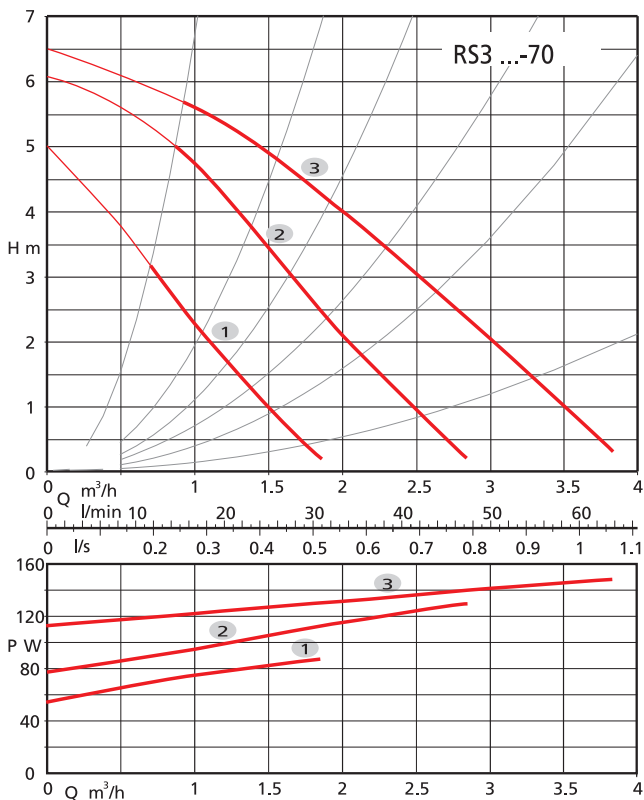
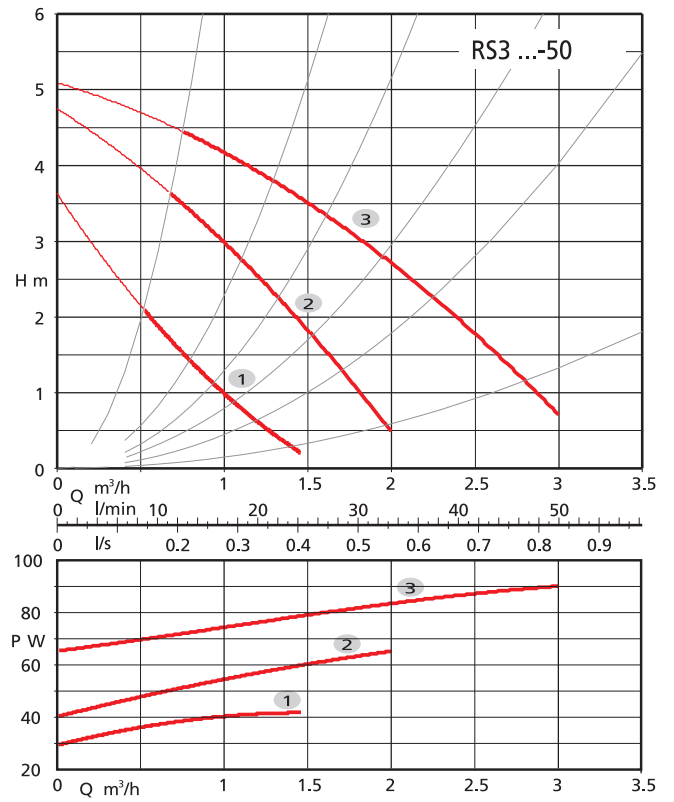
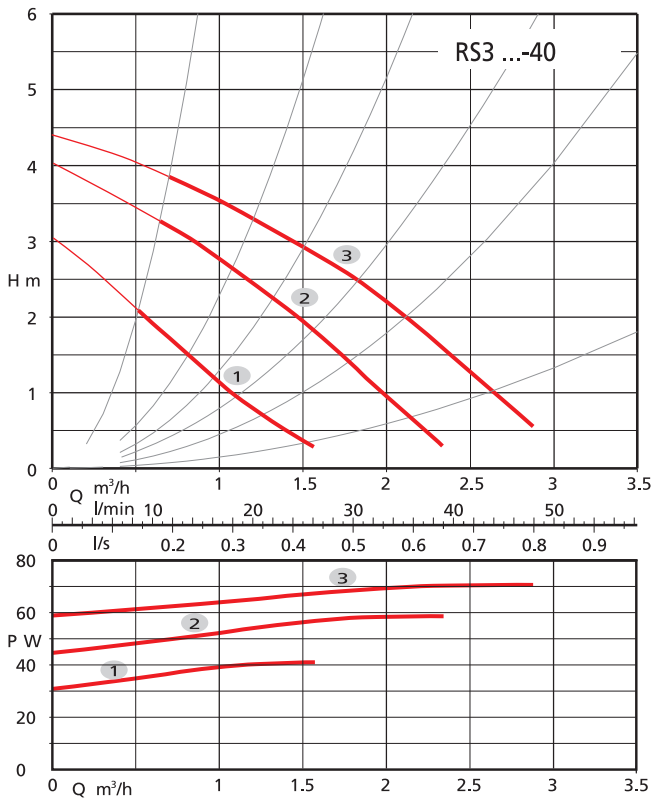


Unions

Bocchettoni Unions Rohrverschraubung Manchons Uniones		
TIPO - TYPE - TYP	DN	DN1
KIT G 1 1/4 - G 3/4 (RS3 20..)	G 1 1/4	G 3/4

RS3...1

Characteristic curves, dimensions and weights



	DN	Pos.	P1 (W)	1x 230 V [A]	A mm	[kg]
RS3 20-40/130-1	G 1 1/4	3	70	0,30	130	2,3
		2	59	0,26		
		1	41	0,18		
RS3 20-50/130-1	G 1 1/4	3	91	0,38	130	2,5
		2	65	0,28		
		1	42	0,18		
RS3 20-70/130-1	G 1 1/4	3	148	0,66	130	3,8
		2	128	0,59		
		1	87	0,41		

Three speeds circulating twin pumps with threaded ports



Construction

Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).

Materials:

Pump casing	Cast iron
Impeller	Stainless steel
Shaft	Stainless steel

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.

Operating conditions

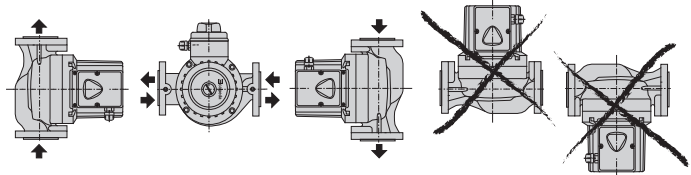
Liquid temperature from -10 °C to +120 °C (in short-time duty up to + 140 °C).
Ambient temperature up to 40 °C.
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require rechecking of the pumping data).
Maximum permissible working pressure 6/10 bar.

Type	Minimum suction pressure: bar		
	Temperature		
	50 °C	80 °C	110 °C
R 40	0,05	0,8	1,4
R 50	0,3	1	1,6
R 65	0,3	1	1,6
R 80	0,3	1	1,6

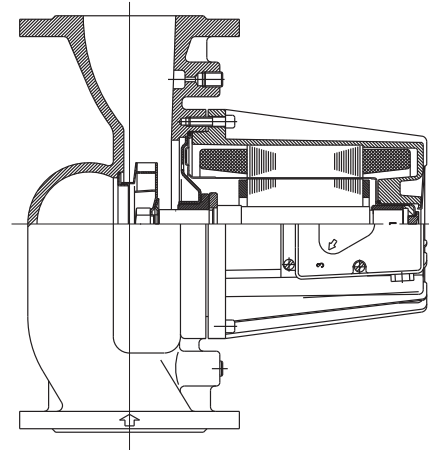
Motor

2-4-pole induction motor, 50 Hz.
Three adjustable speeds.
R: three-phase 230V or 400 V.
RM: single-phase 230 V.
Insulation class H.
Protection IP 43.

Installation



Cross section drawings



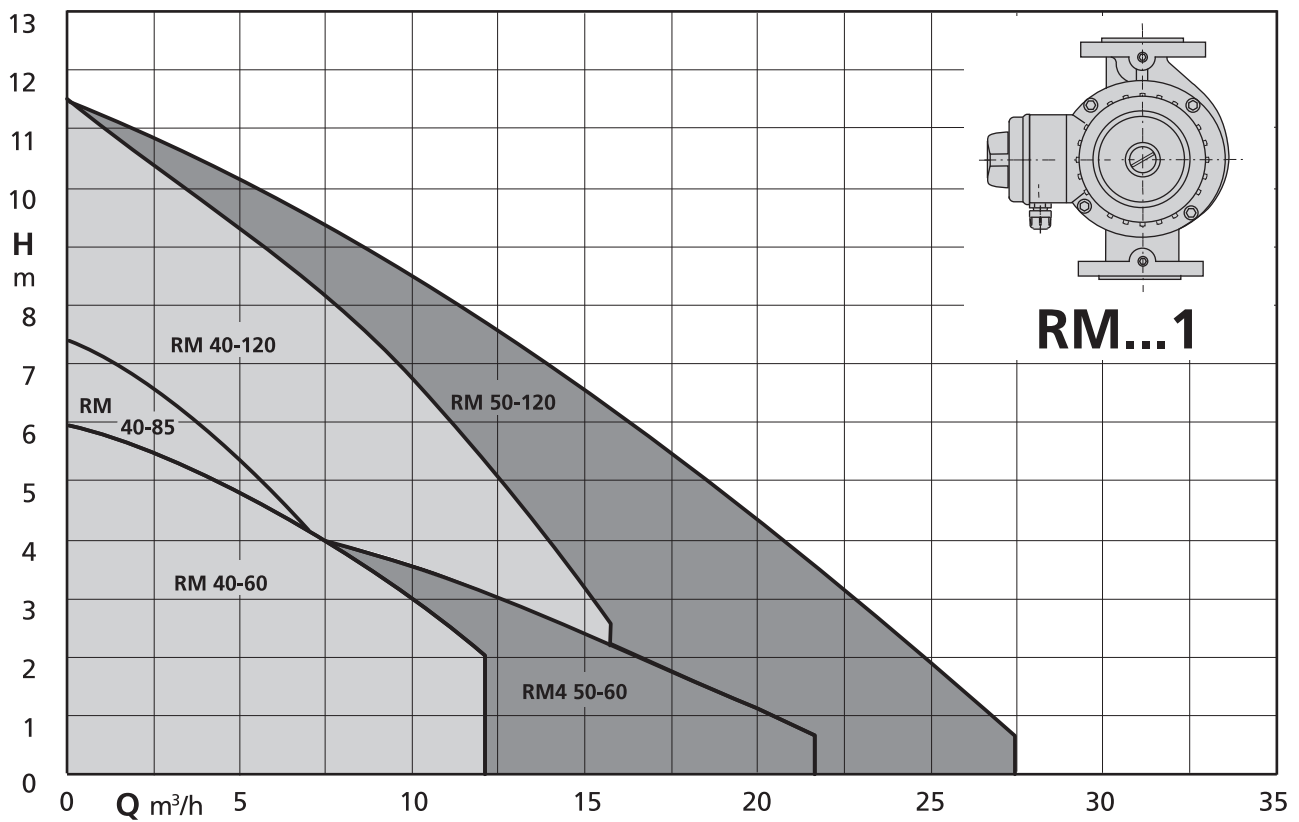
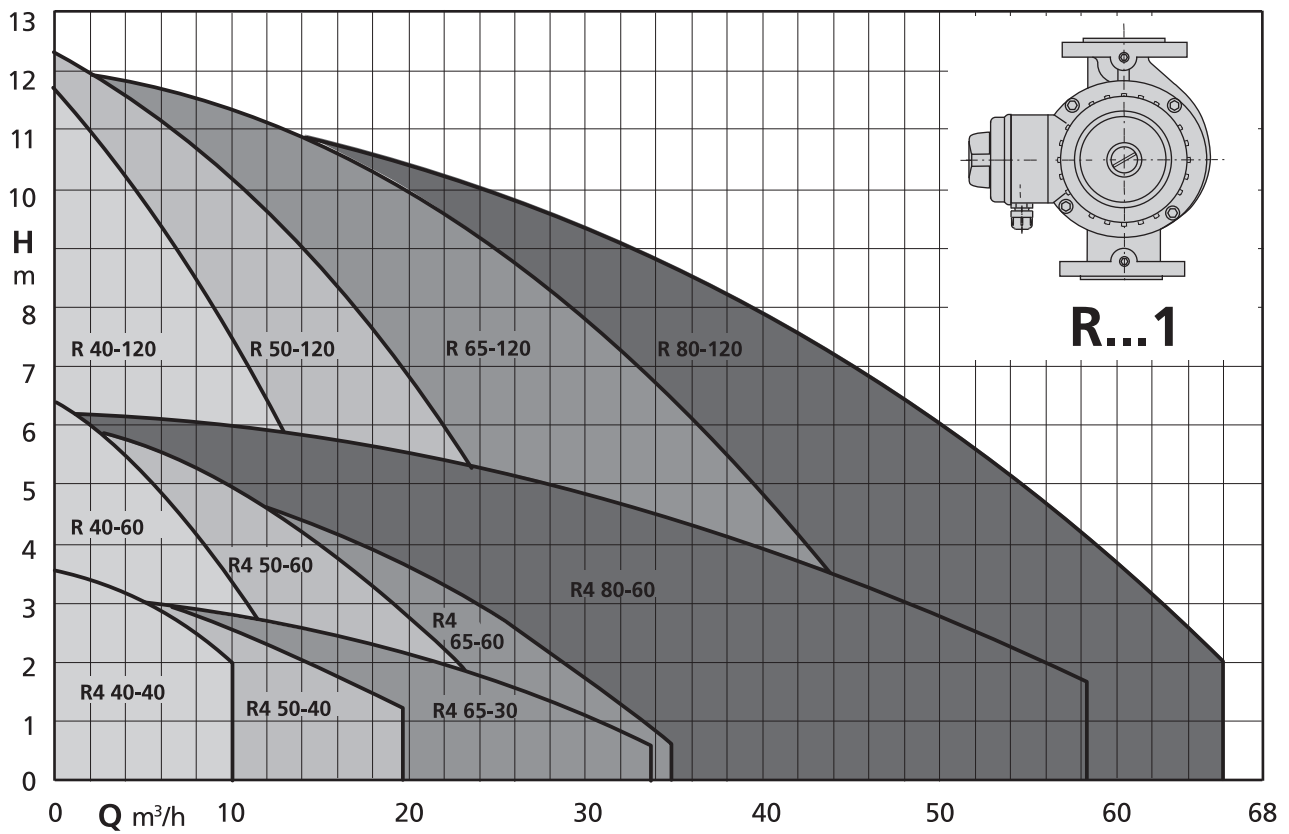
Designation

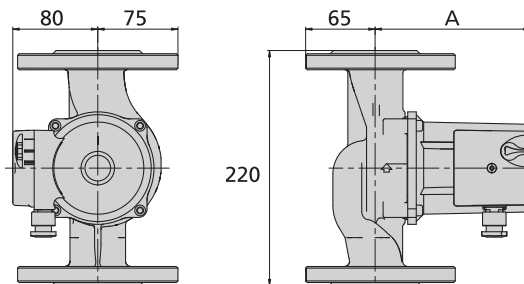
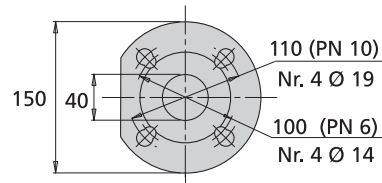
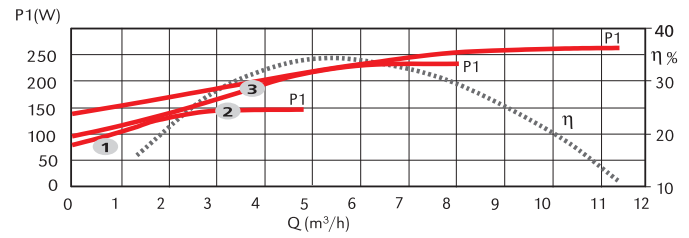
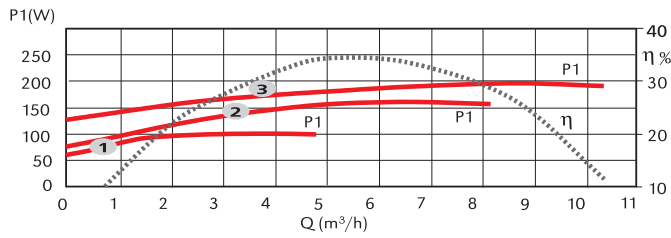
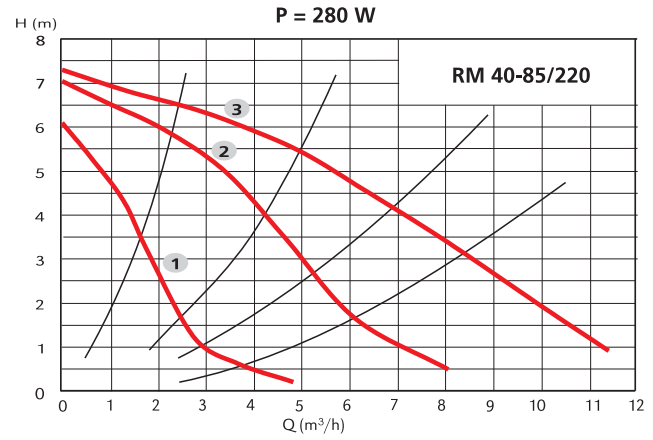
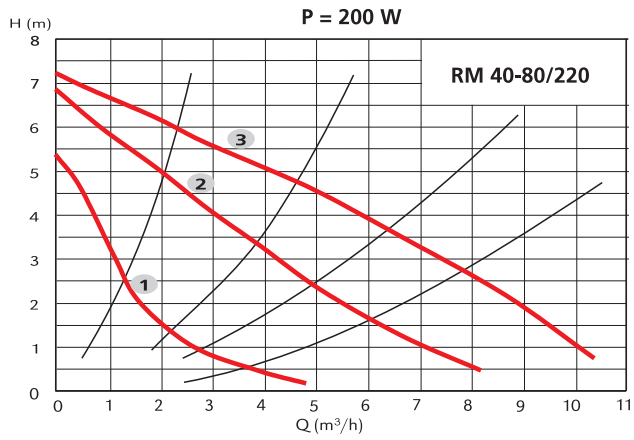
R (M) 4 40 - 60 / 250-1

Series _____
Single-phase motor _____
4-pole motor _____
DN ports in mm _____
Max. head in dm _____
connection size mm _____

R...1

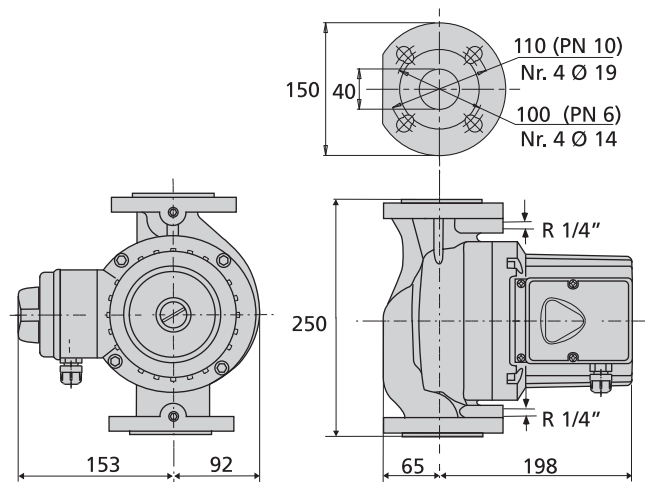
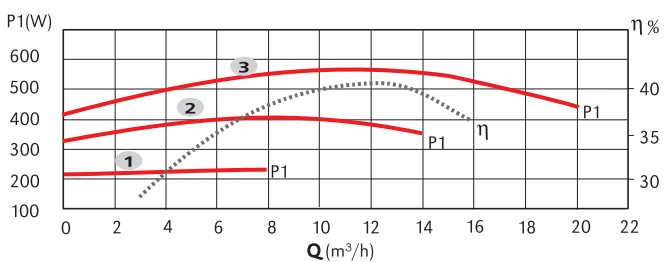
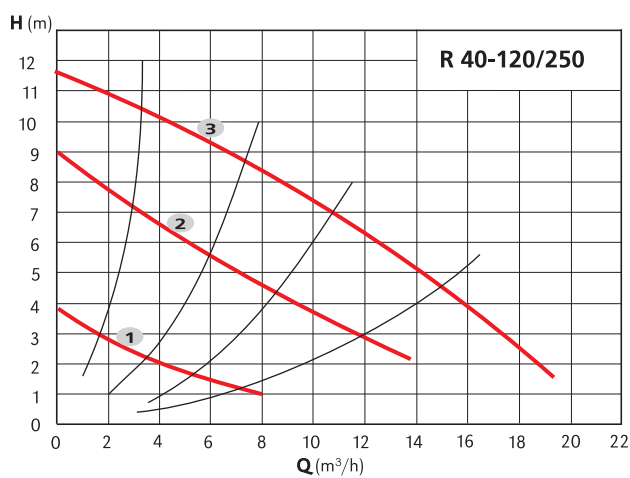
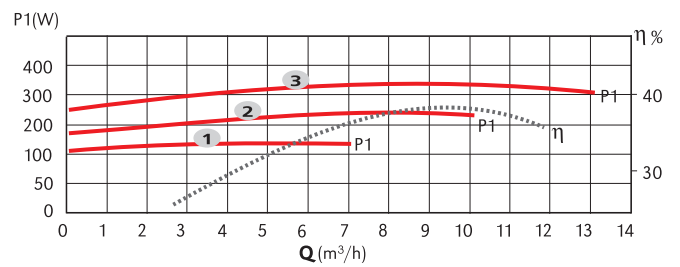
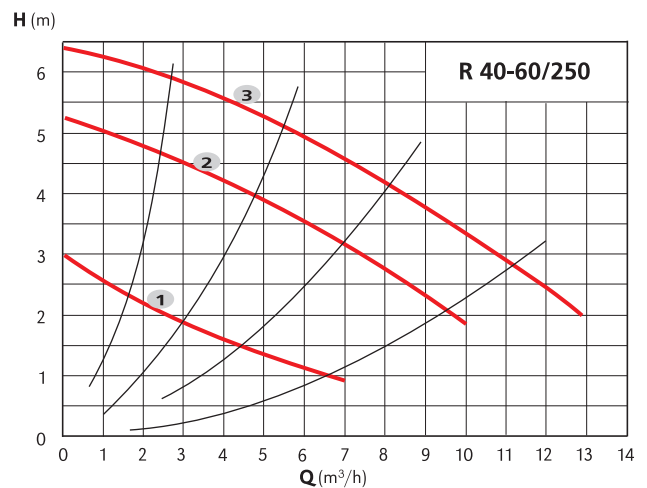
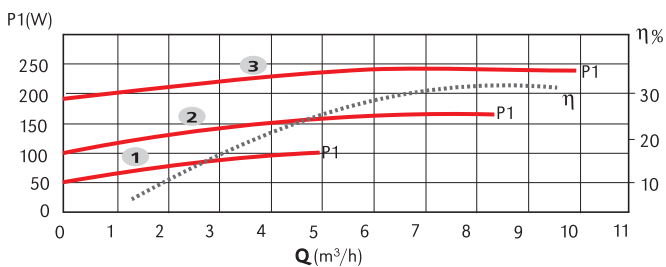
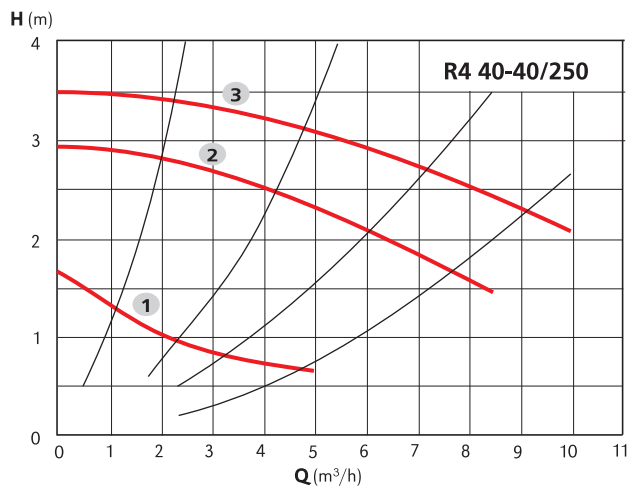
Coverage chart



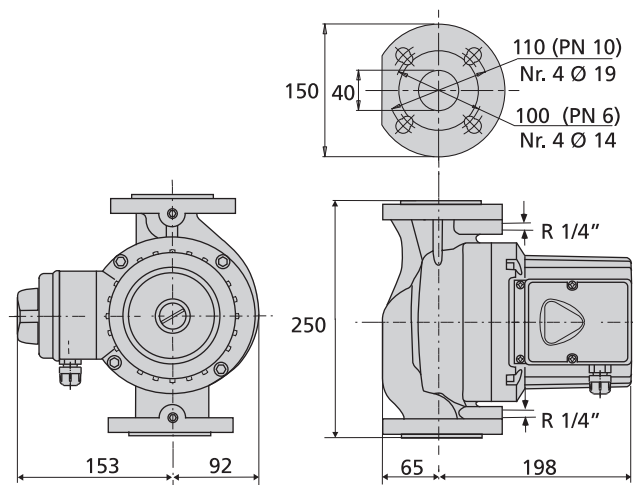
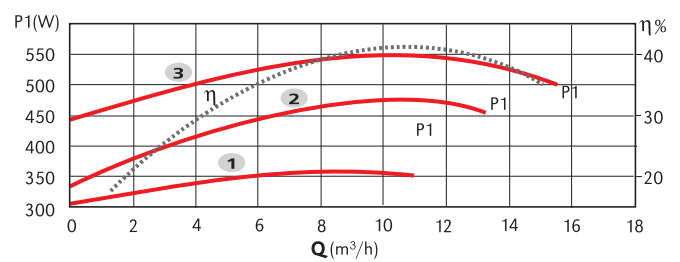
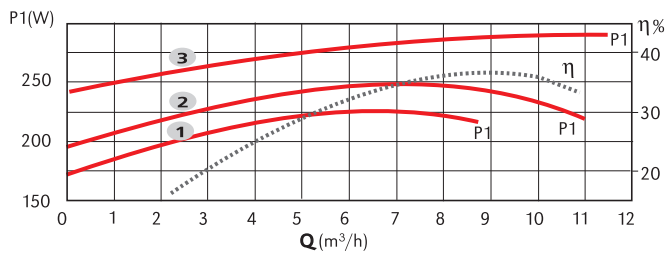
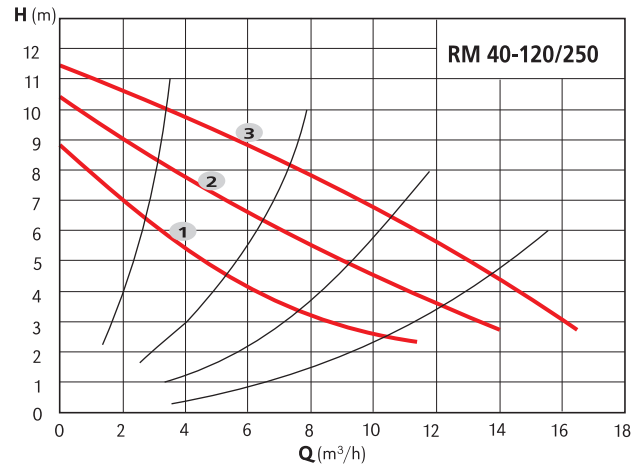
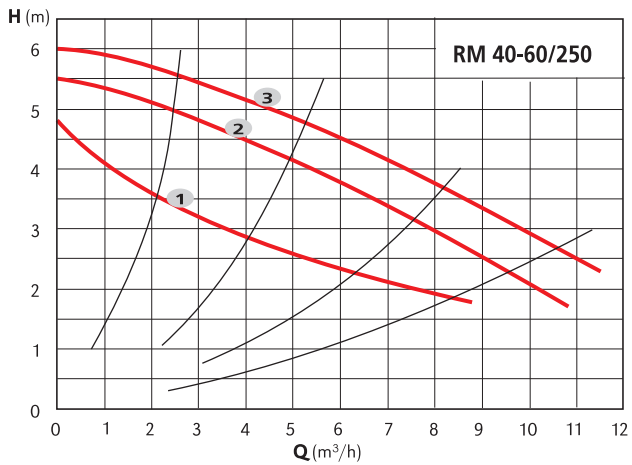


	DN	PN	N° Poli 2 4	Pos.	1/min	P1 (W)	1x 230 V [A]	A [mm]	[kg]
RM 40-80/220-1	40	6/10	✓	3	-	210	0,95	150	8,1
				2	-	176	0,80		
				1	-	107	0,49		
RM 40-85/220-1	40	6/10	✓	3	-	277	1,20	175	8,8
				2	-	250	1,16		
				1	-	172	0,85		

R...1

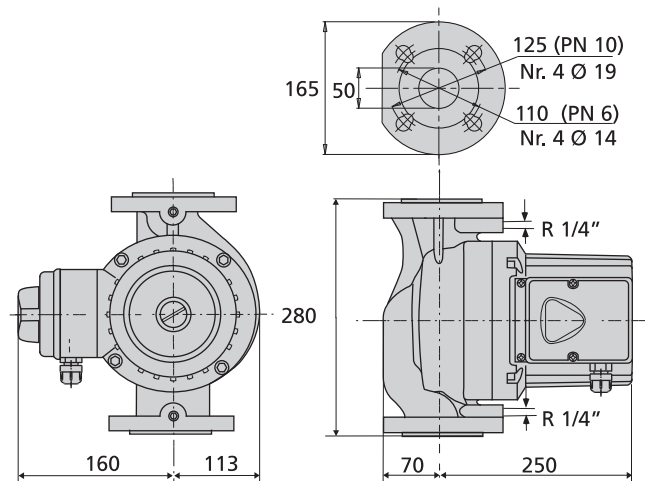
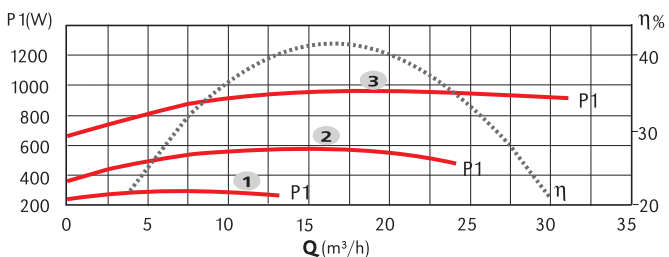
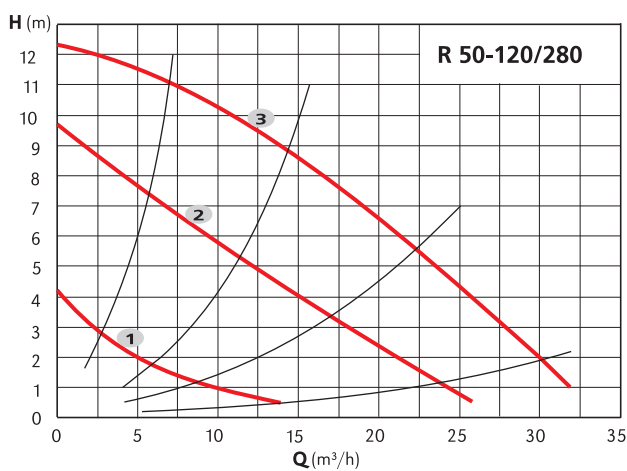
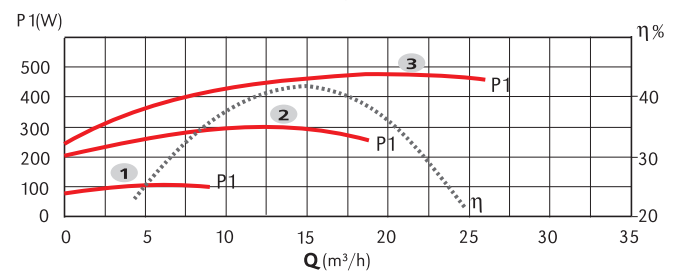
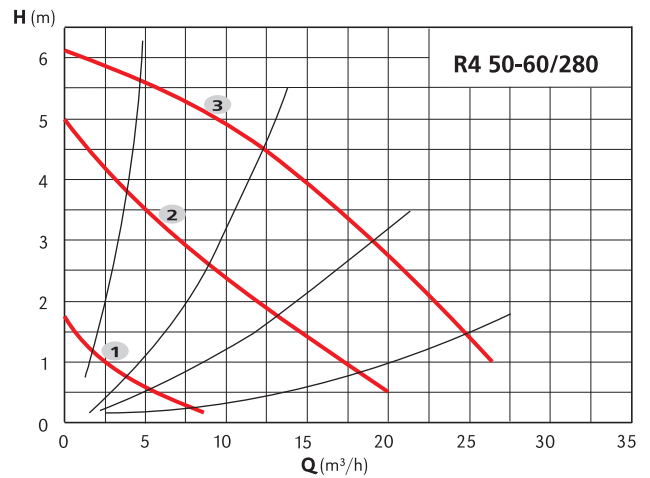
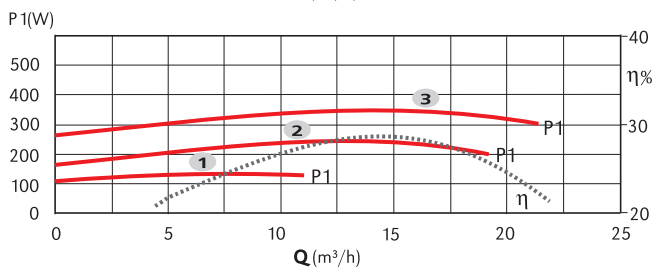
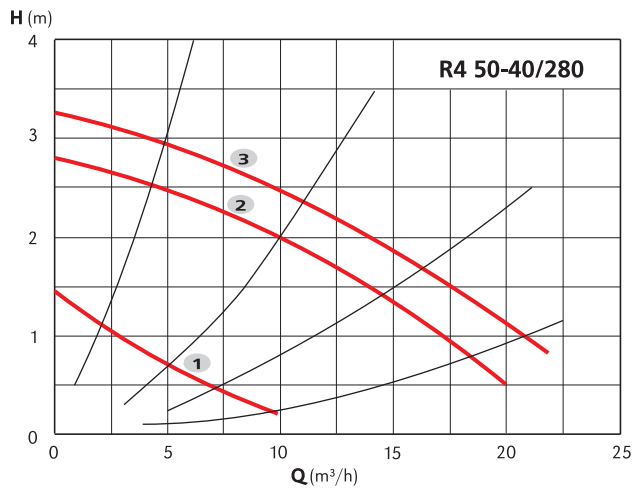


	DN	PN	N° Poli 2 / 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
R4 40-40/250-1	40	6/10	✓	3	1440	240	0,76	17,0
				2	1200	160	0,24	
				1	660	100	0,11	
R 40-60/250-1	40	6/10	✓	3	2790	320	0,74	17,5
				2	2240	240	0,36	
				1	1440	140	0,18	
R 40-120/250-1	40	6/10	✓	3	2820	560	1,16	19,0
				2	2200	400	0,64	
				1	1250	220	0,26	

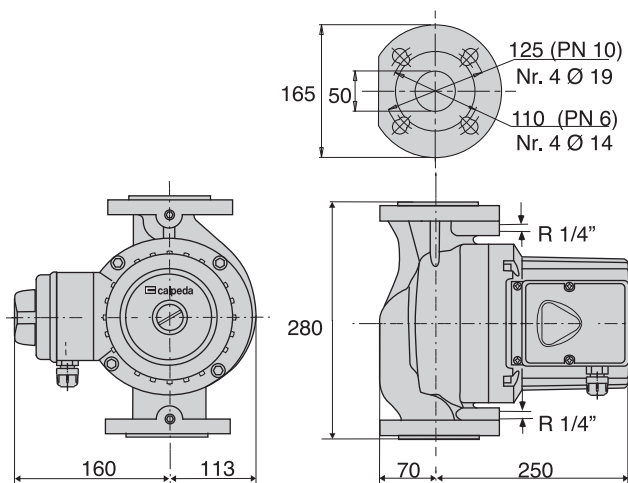
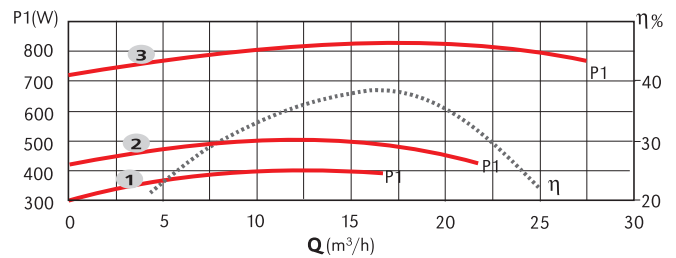
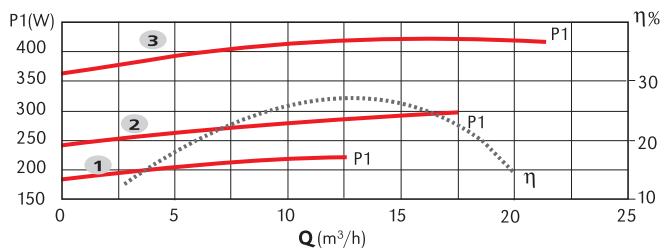
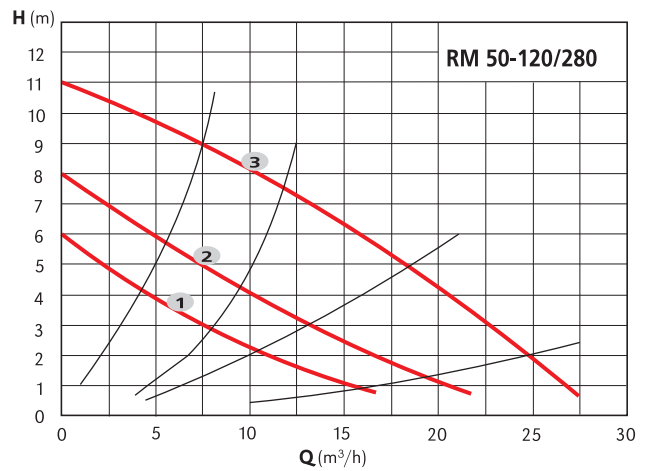
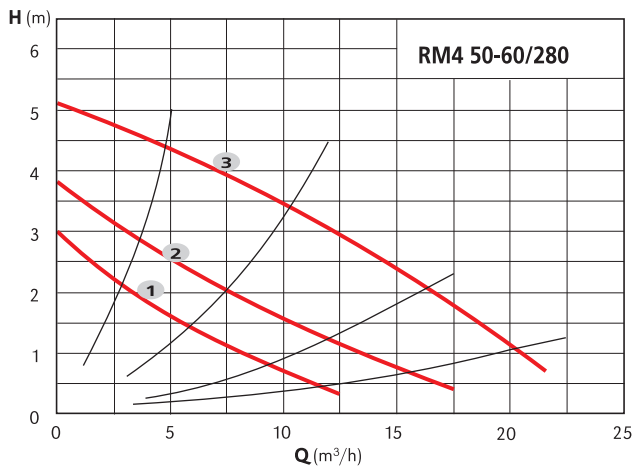


	DN	PN	N° Poli		Pos.	1/min	P1 (W)	1x 230 V [A]	[kg]
			2	4					
RM 40-60/250-1	40	6/10	✓		3	2690	285	1,20	17,5
					2	2360	245	1,18	
					1	1820	225	1,15	
RM 40-120/250-1	40	6/10	✓		3	2750	550	2,35	19,0
					2	2100	475	2,30	
					1	1270	355	1,85	

R...1

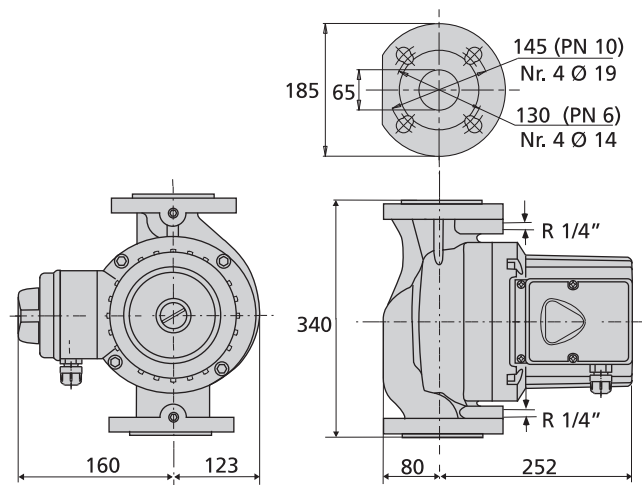
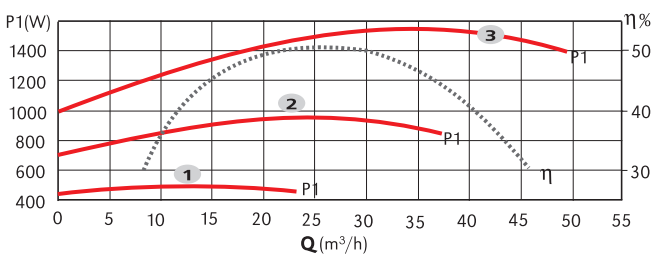
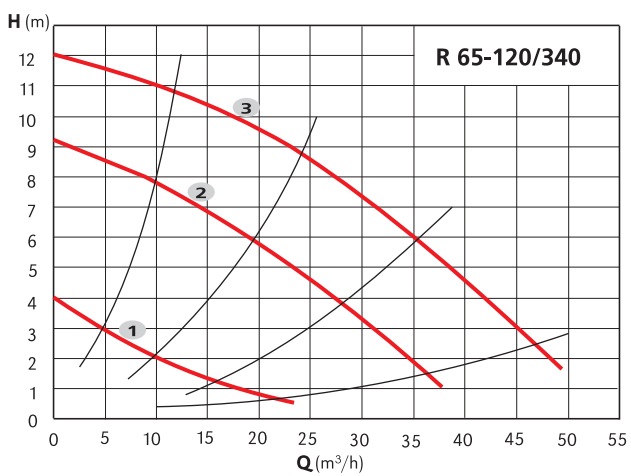
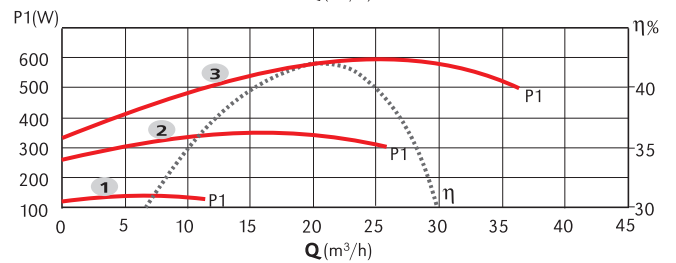
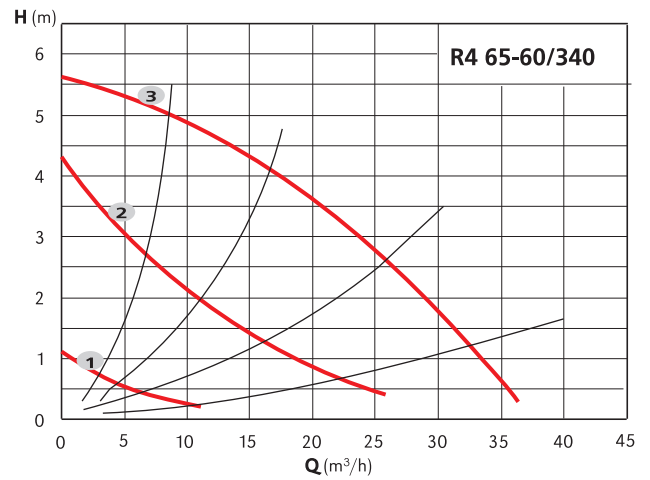
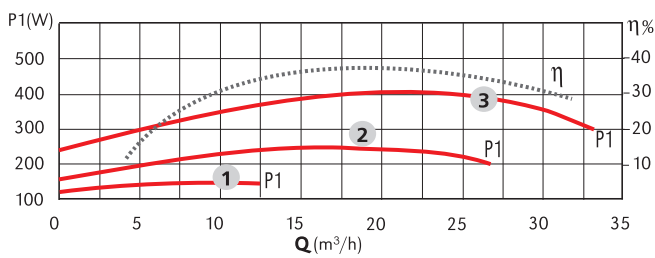
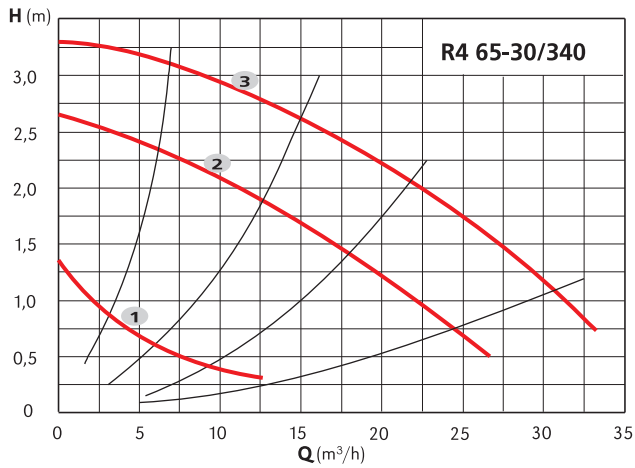


	DN PN	N° Poli 2 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
R4 50-40/280-1	50 6/10	✓	3	1450	340	1,05	24,0
			2	1220	240	0,44	
			1	620	120	0,22	
R4 50-60/280-1	50 6/10	✓	3	1400	470	1,15	24,0
			2	1000	300	0,55	
			1	560	100	0,20	
R 50-120/280-1	50 6/10	✓	3	2800	950	1,73	24,0
			2	2330	540	1,05	
			1	1270	265	0,46	

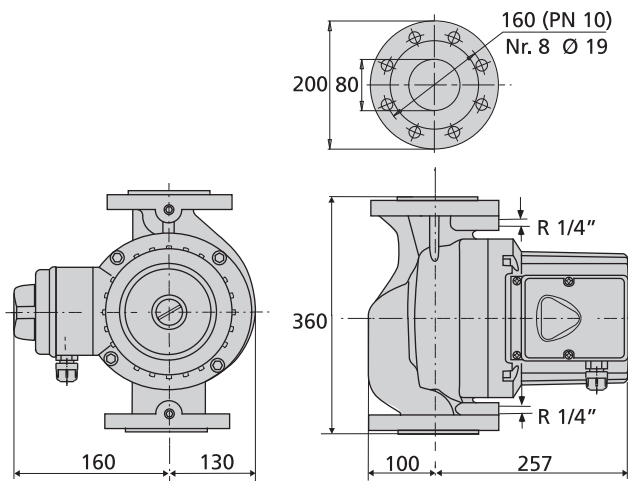
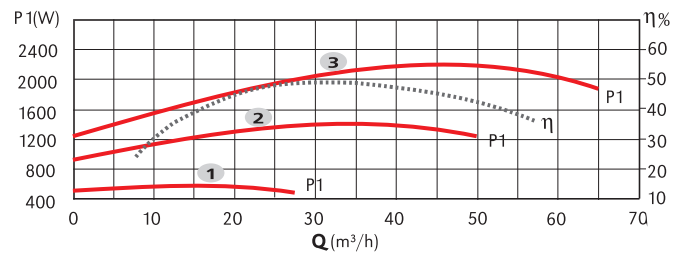
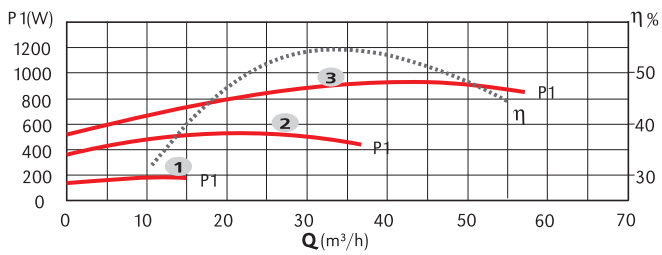
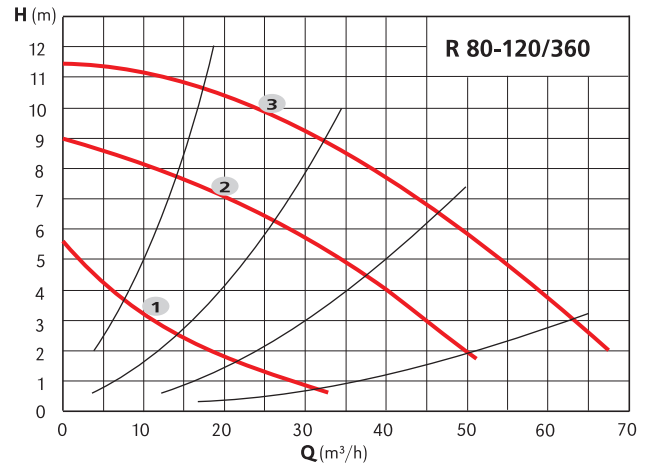
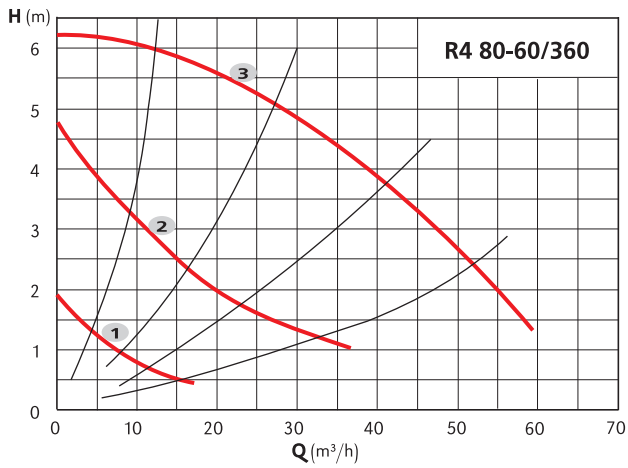


	DN PN		N° Poli		Pos.	1/min	P1 (W)	1x 230 V [A]	[kg]
	2	4	2	4					
RM4 50-60/280-1	50	6/10	✓	3	1260	415	1,8	24,5	
				2	1030	300	1,3		
				1	740	230	1,0		
RM 50-120/280-1	50	6/10	✓	3	2720	830	3,6	24,5	
				2	1870	480	2,1		
				1	1450	390	1,7		

R...1



	DN PN	N° Poli	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
R4 65-30/340-1	65 6/10	✓	3	1430	400	1,10	29,0
			2	1150	260	0,50	
			1	600	120	0,22	
R4 65-60/340-1	65 6/10	✓	3	1370	600	1,25	29,0
			2	950	360	0,64	
			1	450	120	0,22	
R 65-120/340-1	65 6/10	✓	3	2810	1560	2,80	31,0
			2	2200	960	1,70	
			1	1250	460	0,84	



	DN	PN	N° Poli	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
R4 80-60/360-1	80	10	✓	3	1350	960	2,20	33,5
				2	1000	560	1,10	
				1	600	200	0,38	
R 80-120/360-1	80	10	✓	3	2800	2200	3,80	34,5
				2	2160	1400	2,40	
				1	1200	550	1,05	

R...2

Three speeds circulating twin pumps with flanges



Construction

Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).

Materials:

Pump casing	Cast iron
Impeller	Stainless steel
Shaft	Stainless steel

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.

Operating conditions

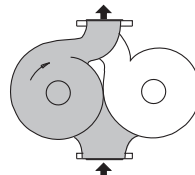
Liquid temperature from -10 °C to +120 °C (in short-time duty up to + 140 °C).
Ambient temperature up to 40 °C.
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require rechecking of the pumping data).
Maximum permissible working pressure 6/10 bar.

Type	Minimum suction pressure: bar		
	Temperature		
	50 °C	80 °C	110 °C
R 40	0,05	0,8	1,4
R 50	0,3	1	1,6
R 65	0,3	1	1,6
R 80	0,3	1	1,6

Motor

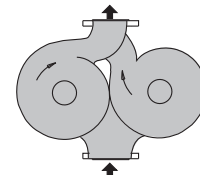
2-4-pole induction motor, 50 Hz.
Three adjustable speeds.
R: three-phase 230V or 400 V.
RM: single-phase 230 V.
Insulation class H.
Protection IP 43.

Operation



Single operation

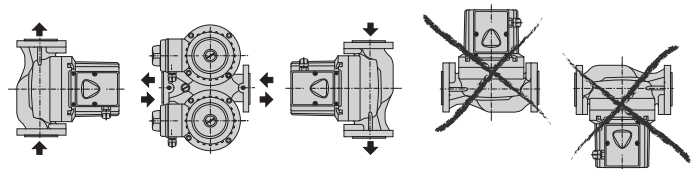
Operation of a single pump chosen by the customer, with the second pump on stand-by



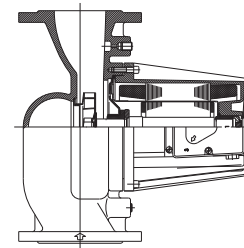
Double operation

Operation in parallel of the two pumps

Installation



Cross section drawings

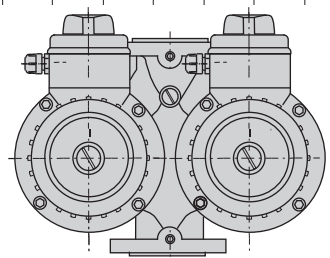
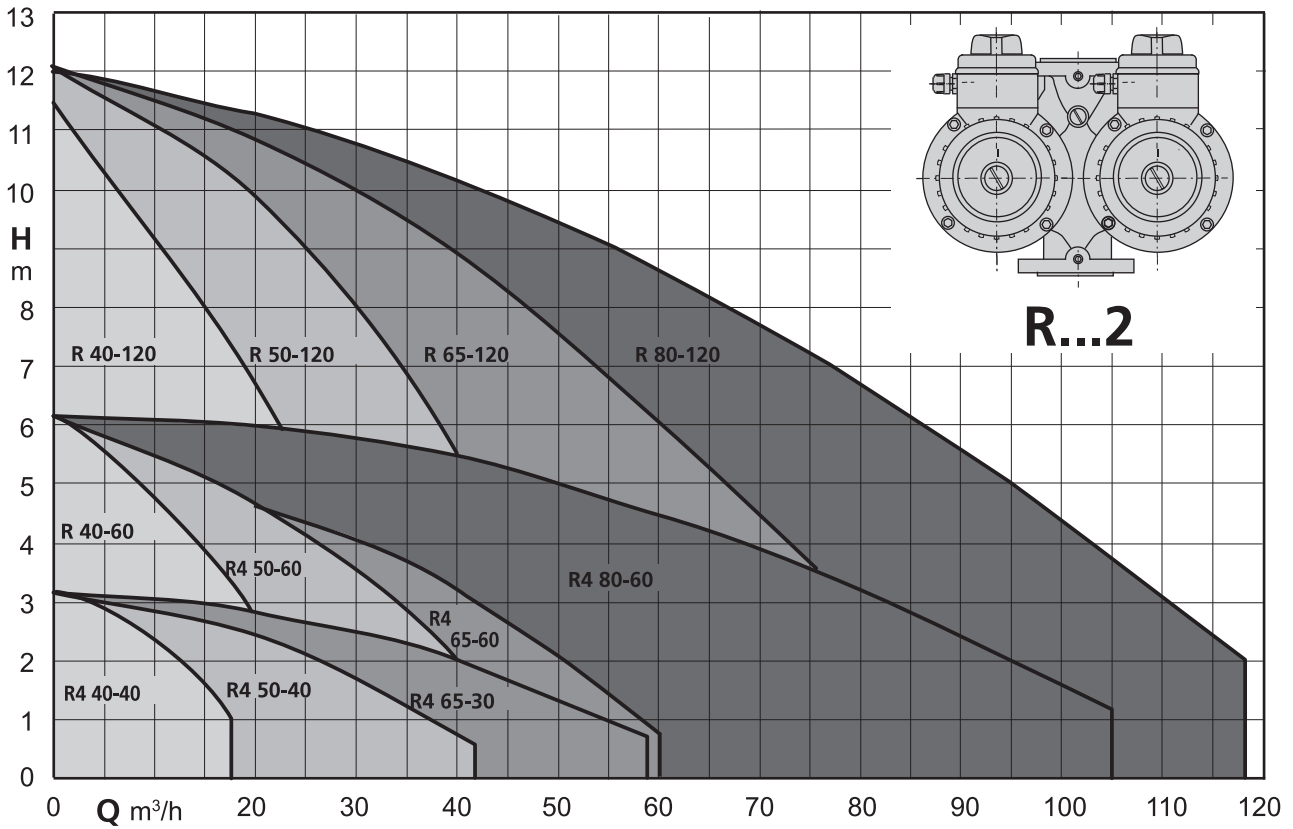


Designation

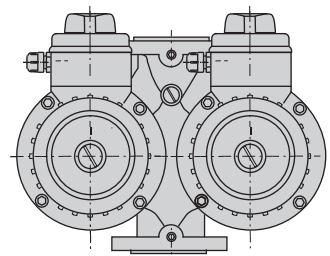
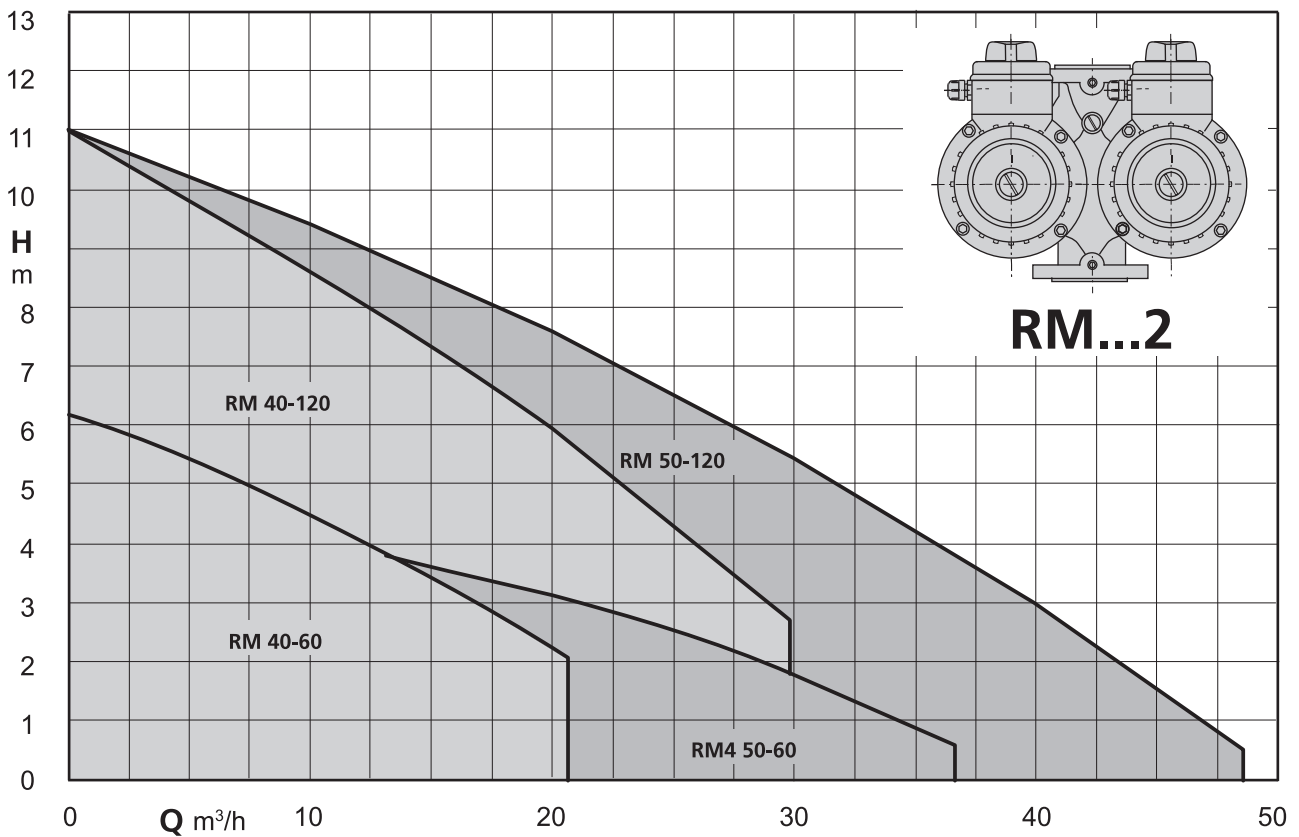
R (M) 4 40 - 60 / 250-2

Series _____
Single-phase motor _____
4-pole motor _____
DN ports in mm _____
Max. head in dm _____
Connection size mm _____
Twin pumps version _____

Coverage chart



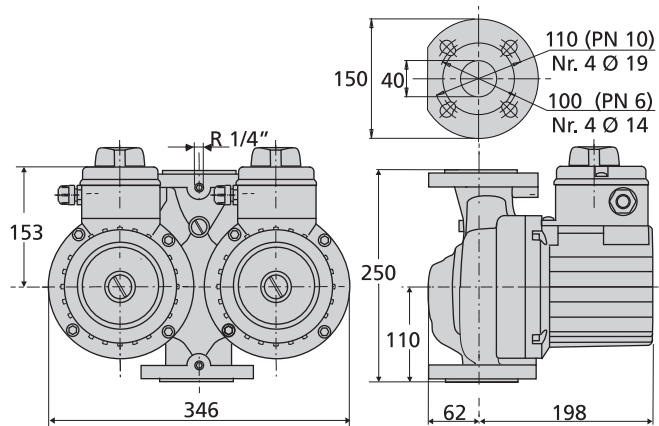
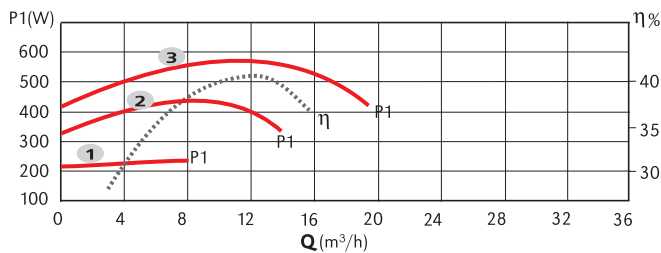
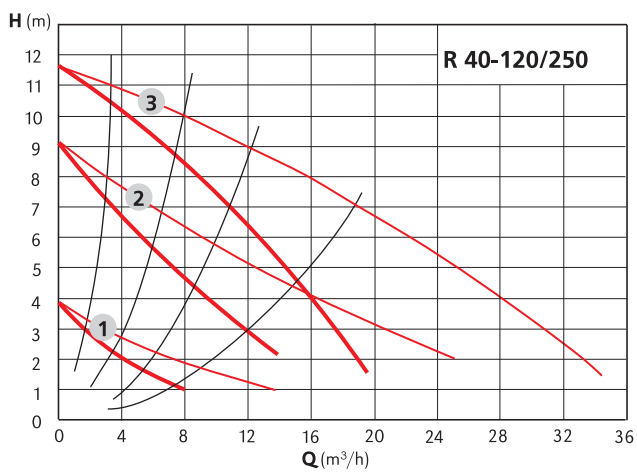
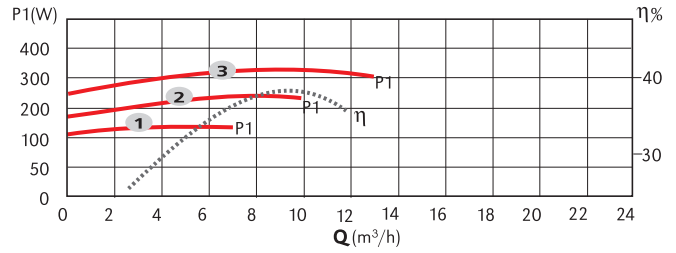
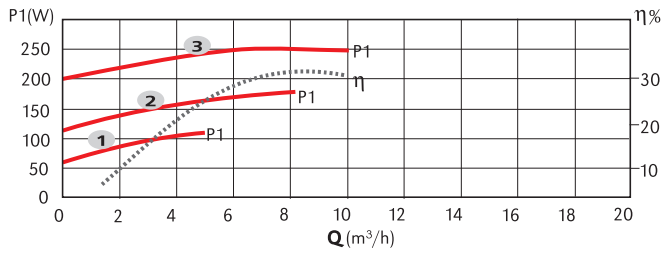
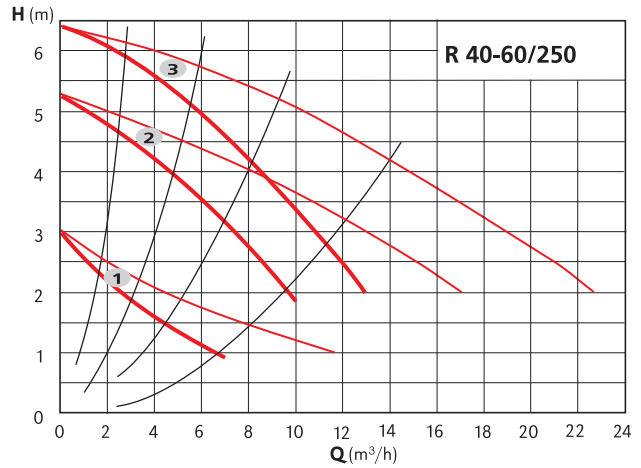
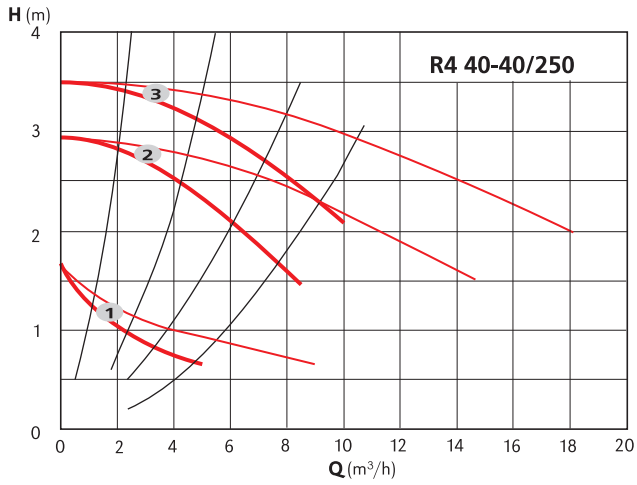
R...2



RM...2

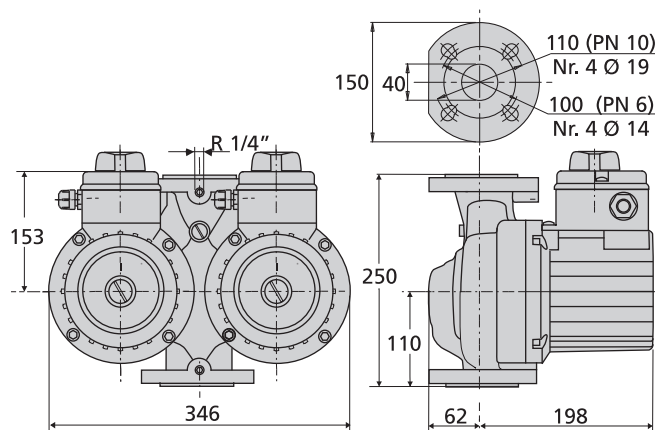
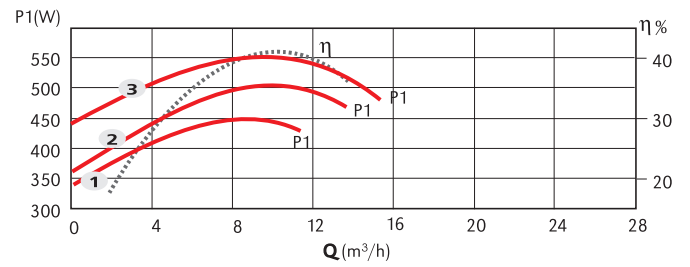
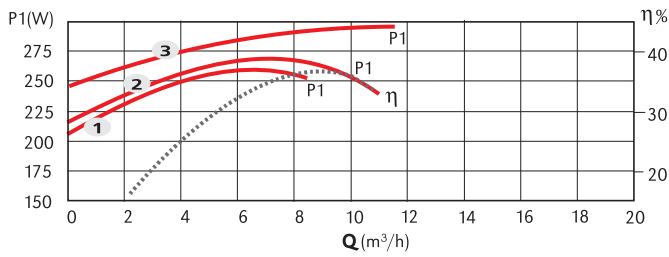
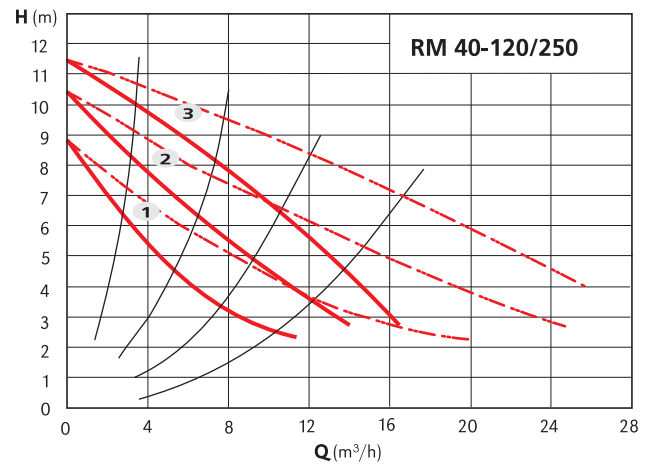
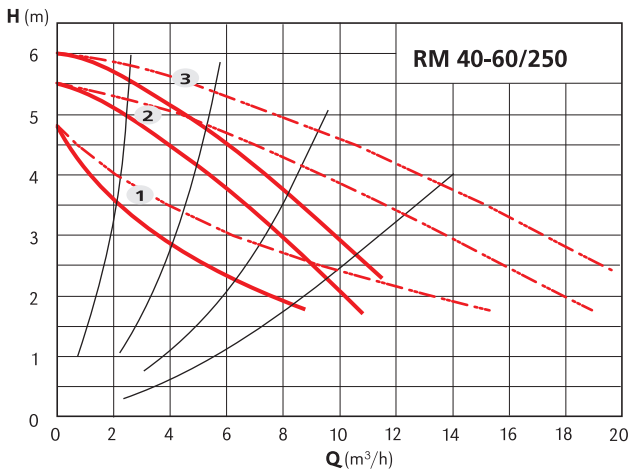
R 40

Characteristic curves, dimensions and weights



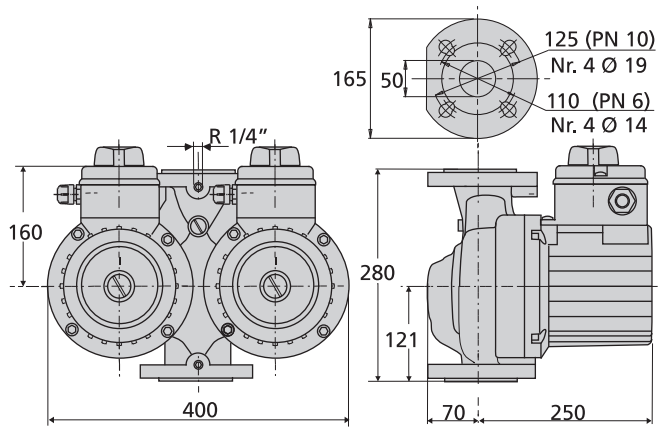
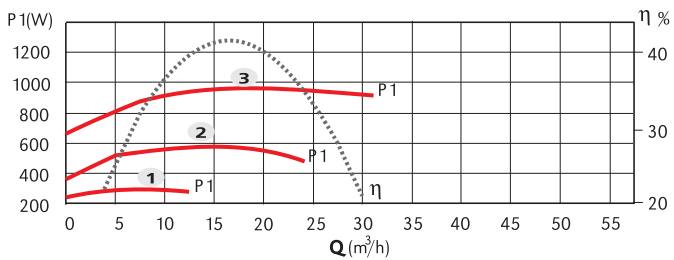
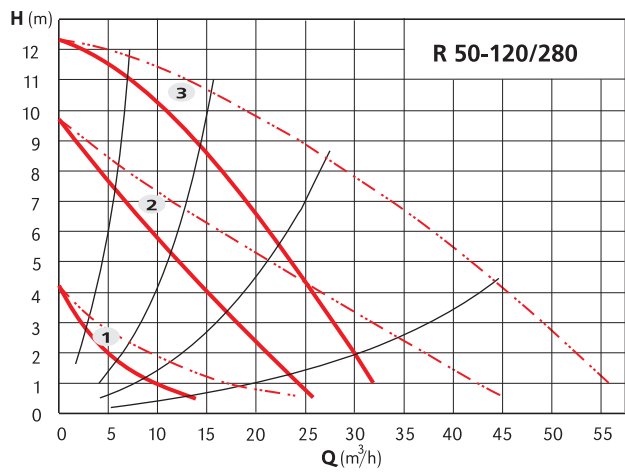
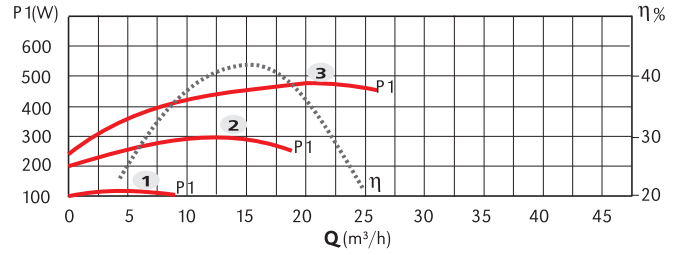
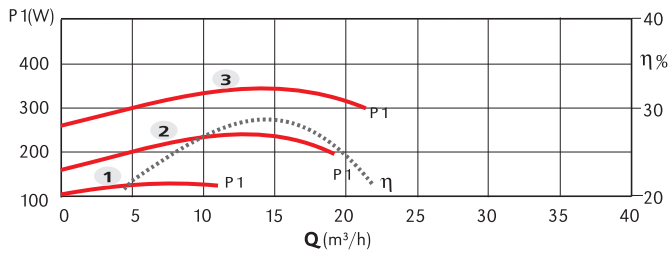
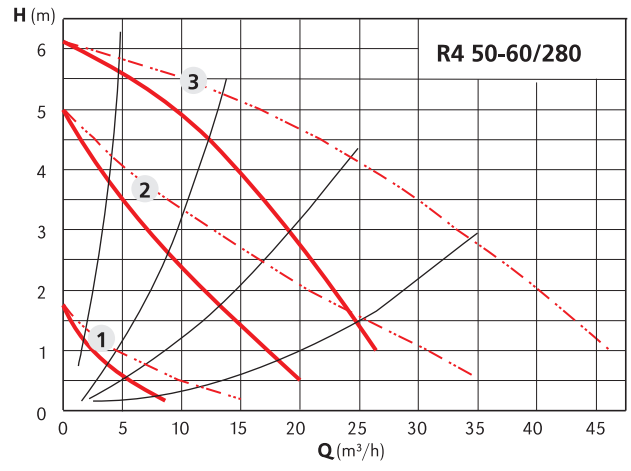
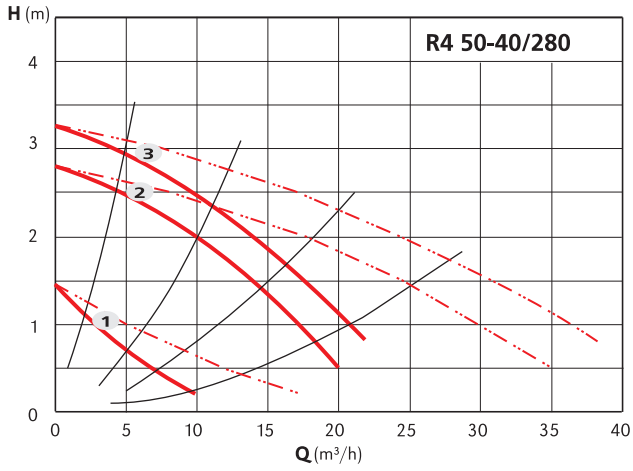
	DN	PN	N° Poli 2 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
R4 40-40/250-2	40	6/10	✓	3 2 1	1440 1200 660	240 160 100	0,76 0,24 0,11	34,0
R 40-60/250-2	40	6/10	✓	3 2 1	2790 2240 1440	320 240 140	0,74 0,36 0,18	35,0
R 40-120/250-2	40	6/10	✓	3 2 1	2820 2200 1250	560 400 220	1,16 0,64 0,26	35,0

Characteristic curves, dimensions and weights



	DN	PN	N° Poli		Pos.	1/min	P1 (W)	1x 230 V [A]	[kg]
			2	4					
RM 40-60/250-2	40	6/10	✓		3	2690	285	1,20	35,0
					2	2360	245	1,18	
					1	1820	225	1,15	
RM 40-120/250-2	40	6/10	✓		3	2755	550	2,35	35,0
					2	2100	475	2,30	
					1	1270	355	1,85	

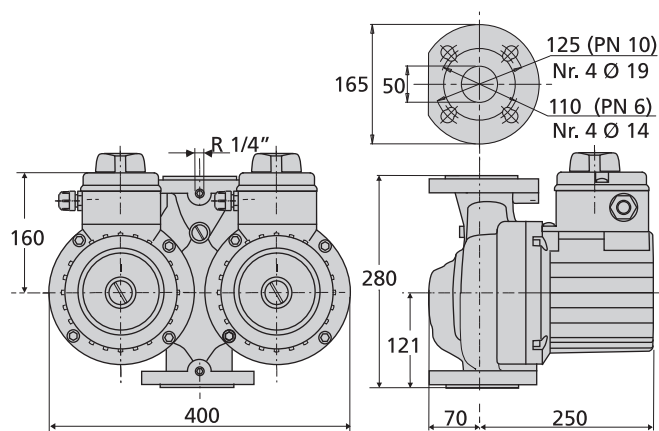
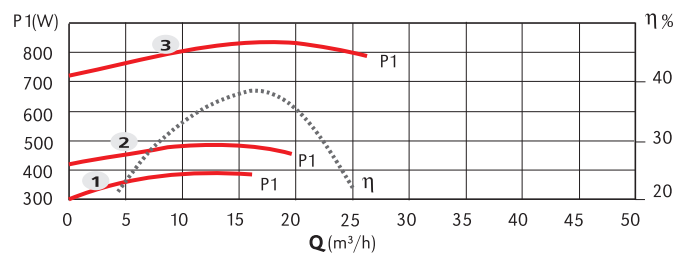
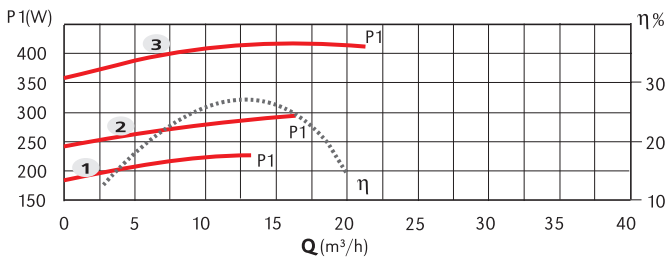
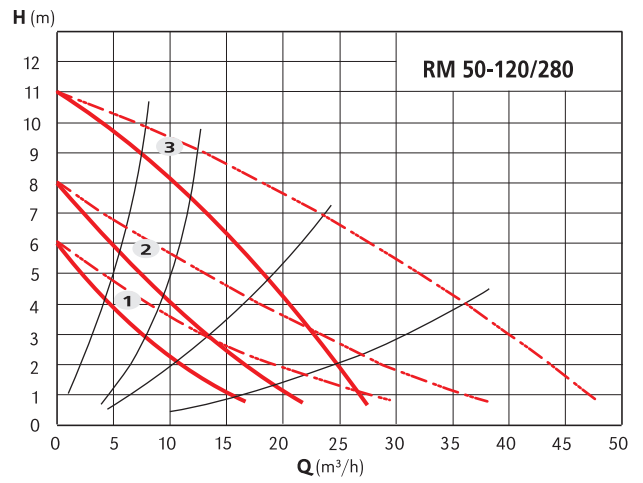
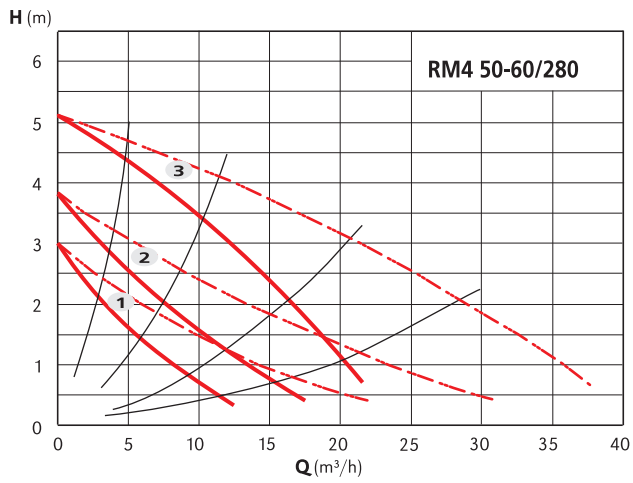
R 50



	DN	PN	N° Poli 2 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
R4 50-40/280-2	50	6/10	✓	3	1450	340	1,05	44,0
				2	1220	240	0,44	
				1	620	120	0,22	
R4 50-60/280-2	50	6/10	✓	3	1400	470	1,15	44,0
				2	1000	300	0,55	
				1	560	100	0,20	
R 50-120/280-2	50	6/10	✓	3	2800	950	1,73	44,0
				2	2330	540	1,05	
				1	1270	265	0,46	

RM 50

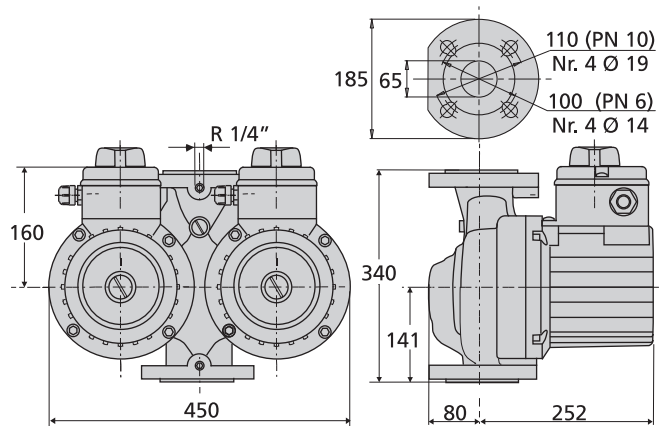
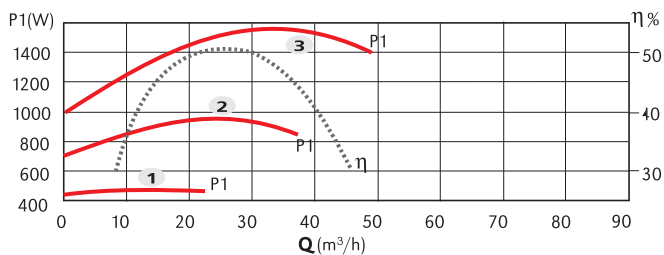
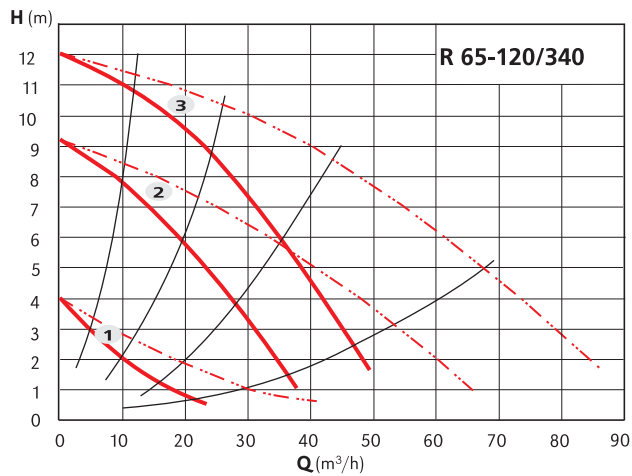
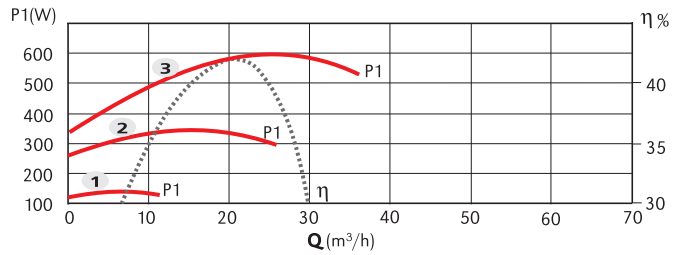
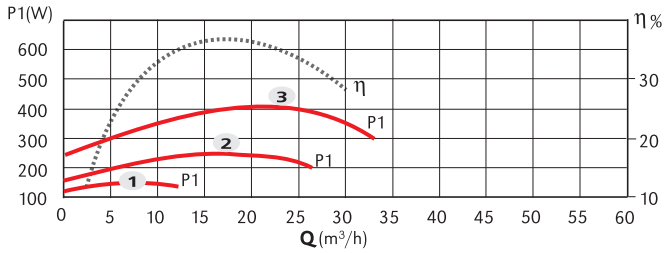
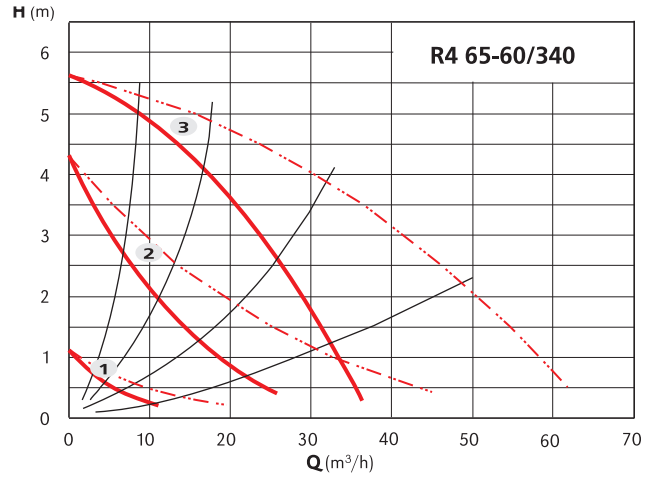
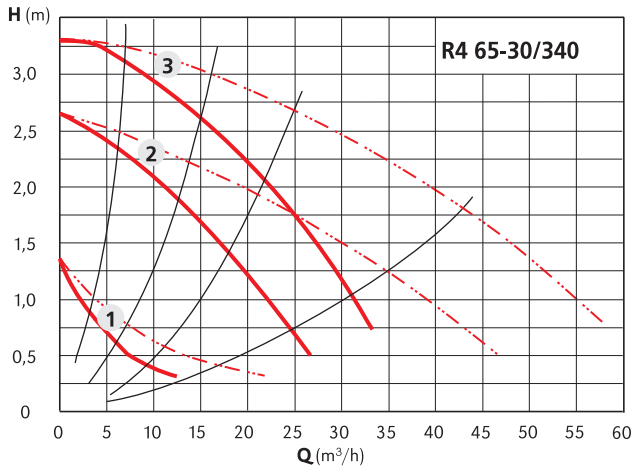
Characteristic curves, dimensions and weights



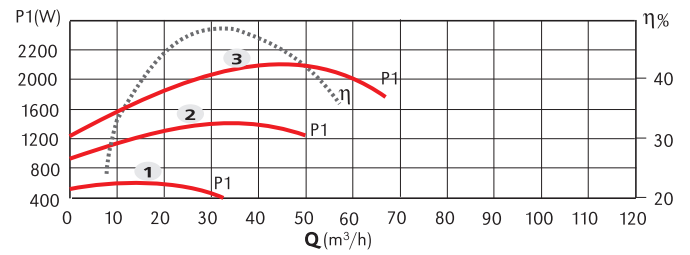
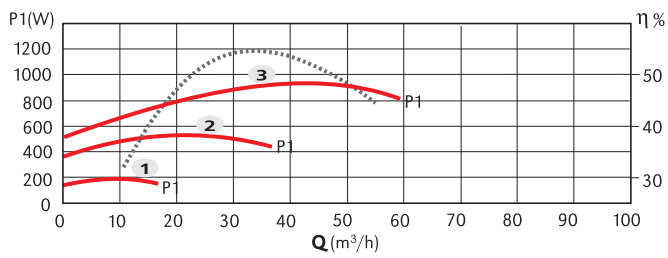
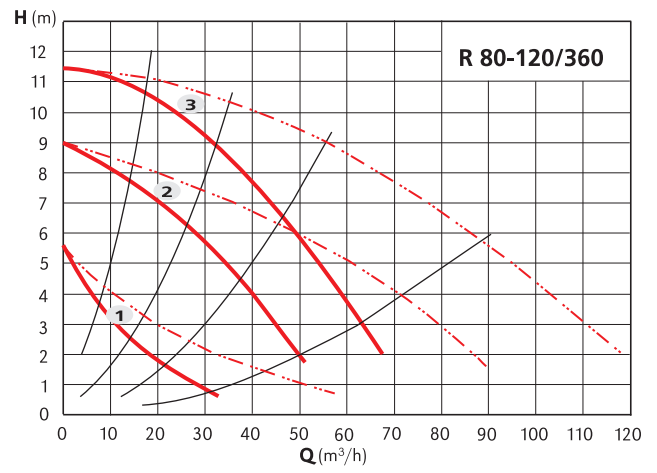
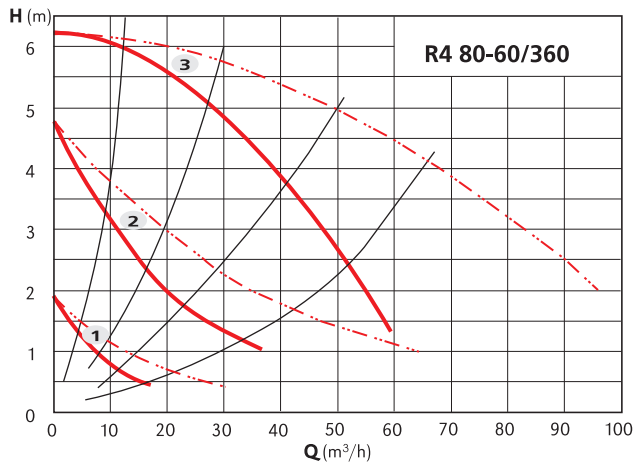
	DN	PN	N° Poli		1/min	P1 (W)	1x 230 V [A]	[kg]
			2	4				
RM4 50-60/280-2	50	6/10	✓	3	1260	415	1,8	44,0
				2	1030	300	1,3	
				1	740	230	1,0	
RM 50-120/280-2	50	6/10	✓	3	2720	830	3,6	44,0
				2	1870	480	2,1	
				1	1450	390	1,7	

R 65

Characteristic curves, dimensions and weights

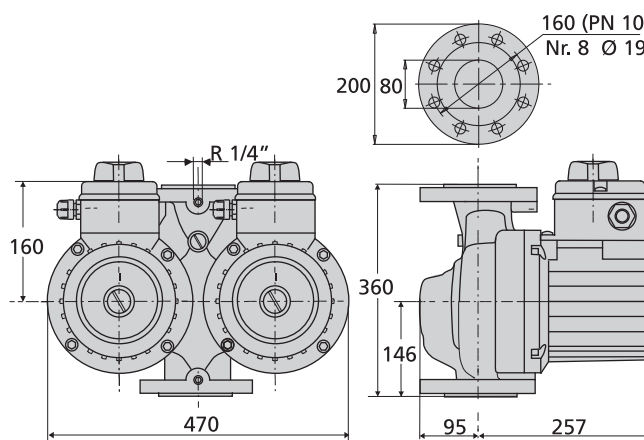


	DN	PN	N° Poli		Pos.	1/min	P1 (W)	3x 400 V	
			2	4				[A]	[kg]
R4 65-30/340-2	65	6/10	✓		3	1430	400	1,10	49,0
					2	1150	260	0,50	
					1	600	120	0,22	
R4 65-60/340-2	65	6/10	✓		3	1370	600	1,25	49,0
					2	950	360	0,64	
					1	450	120	0,22	
R 65-120/340-2	65	6/10	✓		3	2810	1560	2,80	54,0
					2	2200	960	1,70	
					1	1250	460	0,84	

Characteristic curves, dimensions and weights


— Single operation
 - - - Operation in parallel

— Single operation
 - - - Operation in parallel



	DN	PN	N° Poli		1/min	P1 (W)	3x 400 V	
			2	4			[A]	[kg]
R4 80-60/360-2	80	10	✓	3	1350	960	2,20	60,0
				2	1000	560	1,10	
				1	600	200	0,38	
R 80-120/360-2	80	10	✓	3	2800	2200	3,80	62,0
				2	2160	1400	2,40	
				1	1200	550	1,05	