

NC, NCD

3 Speeds, Flanged Type Circulation Pumps



Twin Execution

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 |
| NC40 | 0,05 | 0,8 | 1,4 |
| NC50 | 0,3 | 1 | 1,6 |
| NC65 | 0,3 | 1 | 1,6 |
| NC80 | 0,3 | 1 | 1,6 |

Motor

2-4-pole induction motor, 50 Hz.

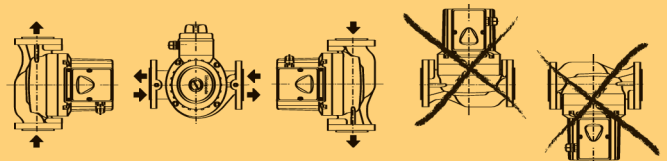
Three adjustable speeds.

NC: three-phase 230V or 400 V.

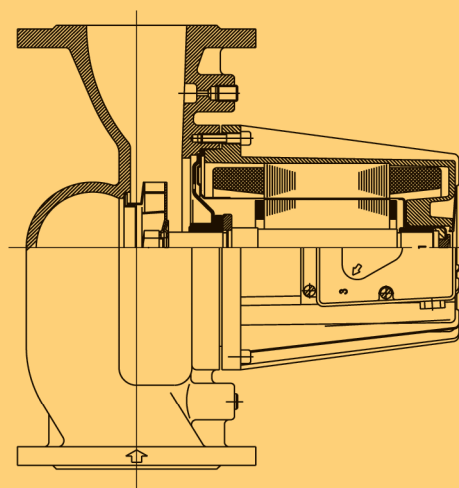
NCM: single-phase 230 V. Insulation class H.

Protection IP 43.

Installation



Cross section drawings



Designation

NC (M) 4 40 - 60 / 250

| | |
|--------------------|--------|
| Series | NC (M) |
| Single-phase motor | 4 |
| 4-pole motor | 40 |
| DN ports in mm | 60 |
| Max. head in dm | 250 |
| connection size mm | |

NC

3 Speed, Flanged Type Circulation Pumps

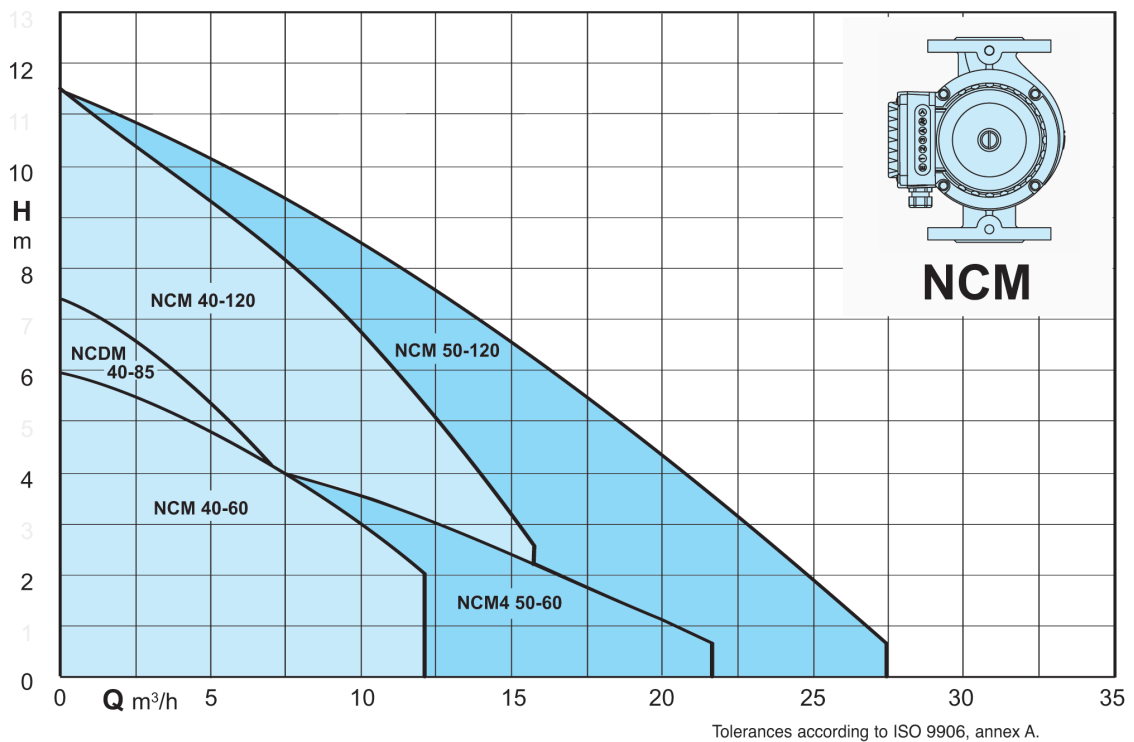
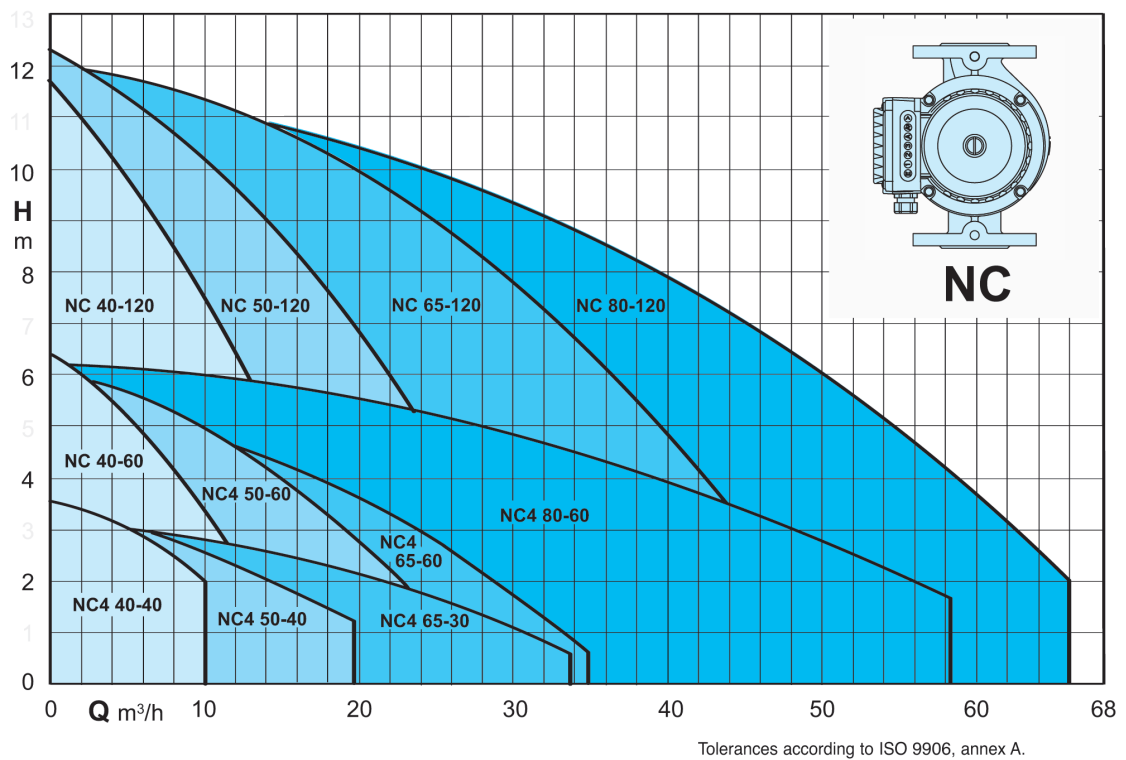
Performance Table

| Pump Model | P1 Watt | Flow Rate (Q) | | | | | | | | | | | | | | | | | |
|------------------|------------|-------------------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|------|
| | | m ³ /h | 0 | 4 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| | | l/min | 0 | 66 | 133 | 166 | 200 | 233 | 266 | 300 | 333 | 416 | 500 | 583 | 666 | 750 | 833 | 916 | 1000 |
| NC 40-120/250-T | 560 | H (m) | 11,5 | 10,4 | 8,4 | 7,4 | 6,3 | 5 | 3,9 | 2,5 | | | | | | | | | |
| NC 50-120/280-T | 950 | | 12,3 | 11,6 | 10,8 | 10,2 | 9,6 | 8,8 | 8 | 7,4 | 6,5 | 4,3 | 2 | | | | | | |
| NC 65-120/340-T | 1560 | | 12 | 11,7 | 11,2 | 11 | 10,6 | 10,5 | 10,2 | 9,8 | 9,6 | 8,6 | 7,3 | 6 | 4,5 | 3 | | | |
| NC 80-120/360-T | 2200 | | 11,4 | 11,3 | 11,2 | 11,1 | 10,9 | 10,8 | 10,7 | 10,5 | 10,3 | 9,8 | 9,2 | 8,5 | 7,7 | 6,7 | 5,8 | 4,8 | 3,7 |
| NCD 40-120/250-T | 2 x 560 | H (m) | 11,5 | 10,4 | 8,4 | 7,4 | 6,3 | 5 | 3,9 | 2,5 | | | | | | | | | |
| NCD 50-120/280-T | 2 x 950 | | 12,3 | 11,6 | 10,8 | 10,2 | 9,6 | 8,8 | 8 | 7,4 | 6,5 | 4,3 | 2 | | | | | | |
| NCD 65-120/340-T | 2 x 1560 | | 12 | 11,7 | 11,2 | 11 | 10,6 | 10,5 | 10,2 | 9,8 | 9,6 | 8,6 | 7,3 | 6 | 4,5 | 3 | | | |
| NCD 80-120/360-T | 2 x 2200 | | 11,4 | 11,3 | 11,2 | 11,1 | 10,9 | 10,8 | 10,7 | 10,5 | 10,3 | 9,8 | 9,2 | 8,5 | 7,7 | 6,7 | 5,8 | 4,8 | 3,7 |

NC

3 Speed, Flanged Type Circulation Pumps

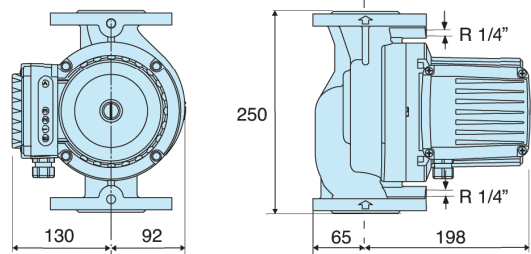
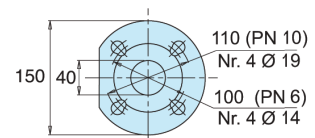
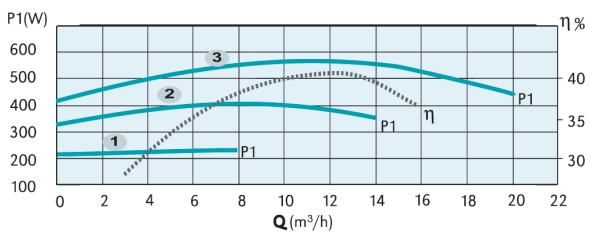
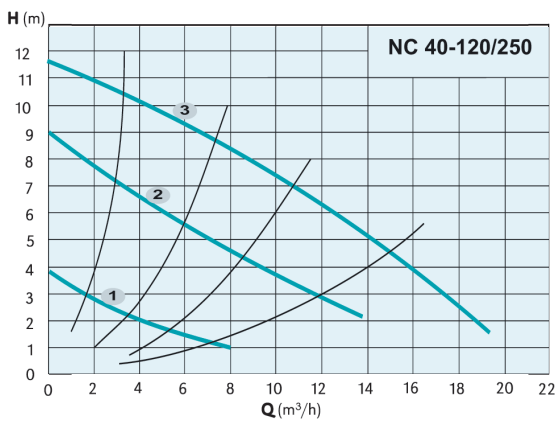
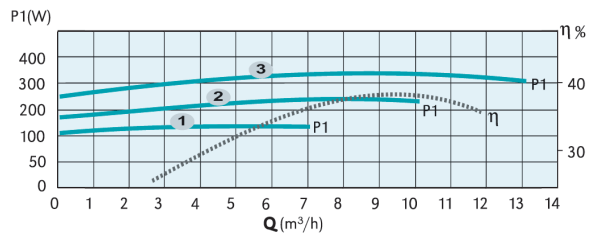
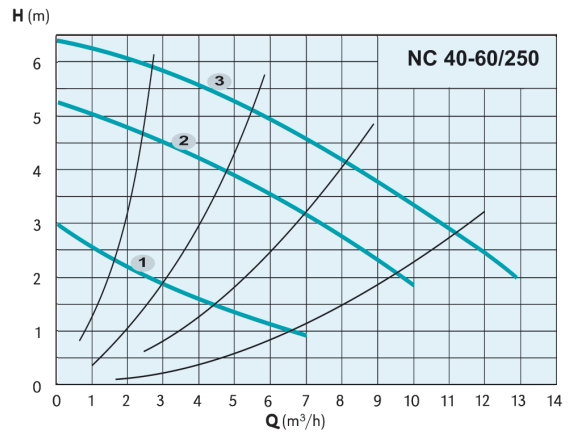
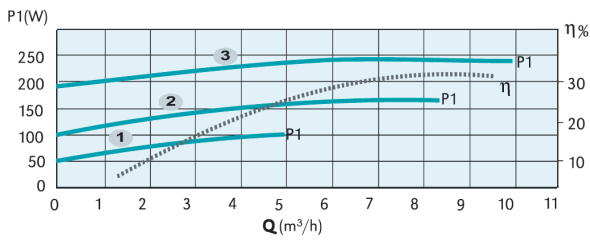
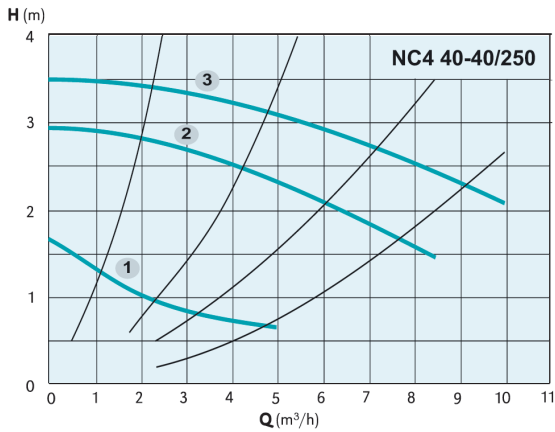
Coverage Chart



NC

3 Speed, Flanged Type Circulation Pumps

NC 40

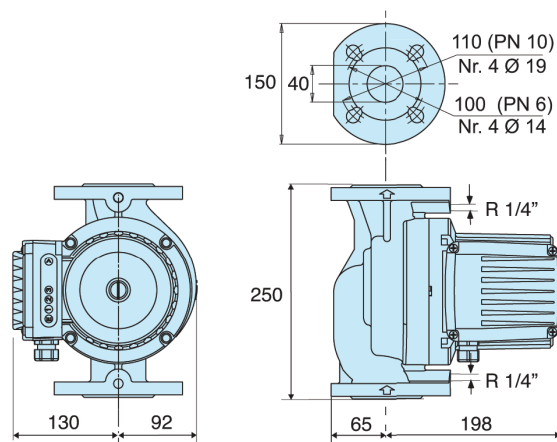
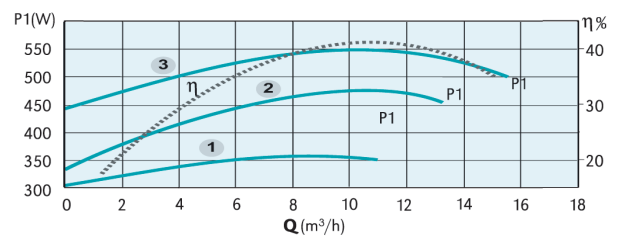
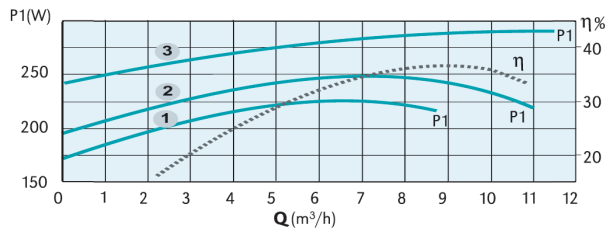
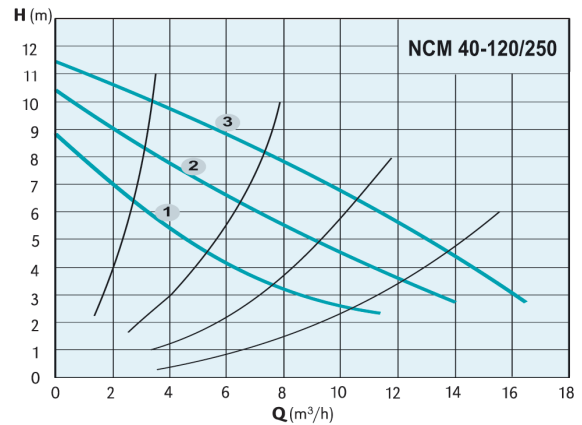
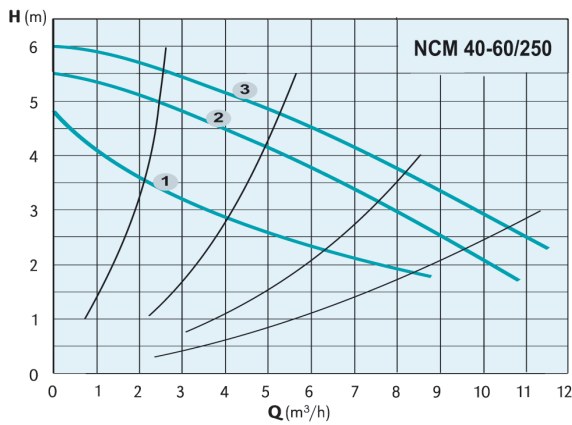


| TYPE | DN | PN | N° Poli | 4 Pos. | 1/min | P1 (W) | 3x 400 V [A] | [kg] |
|---------------|----|------|---------|--------|-------|--------|--------------|------|
| NC4 40-40/250 | 40 | 6/10 | ✓ | 3 | 1440 | 240 | 0,76 | 17,0 |
| | | | | 2 | 1200 | 160 | 0,24 | |
| | | | | 1 | 660 | 100 | 0,11 | |
| NC 40-60/250 | 40 | 6/10 | ✓ | 3 | 2790 | 320 | 0,74 | 17,5 |
| | | | | 2 | 2240 | 240 | 0,36 | |
| | | | | 1 | 1440 | 140 | 0,18 | |
| NC 40-120/250 | 40 | 6/10 | ✓ | 3 | 2820 | 560 | 1,16 | 19,0 |
| | | | | 2 | 2200 | 400 | 0,64 | |
| | | | | 1 | 1250 | 220 | 0,26 | |

NC

3 Speed, Flanged Type Circulation Pumps

NCM 40

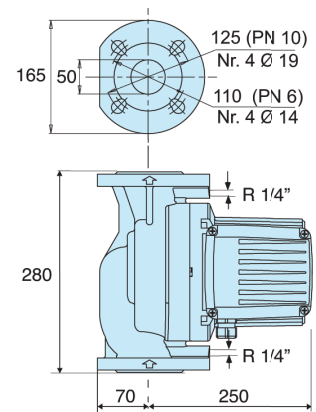
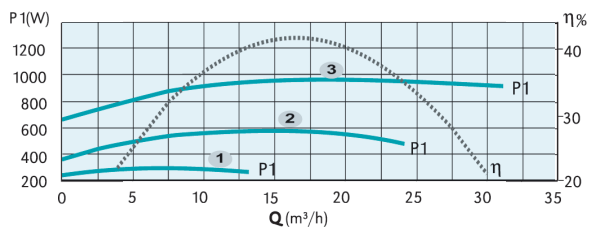
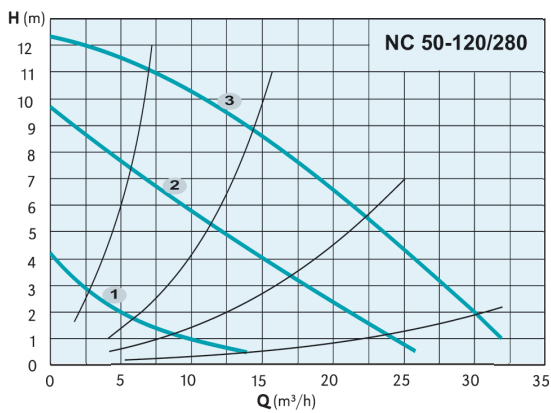
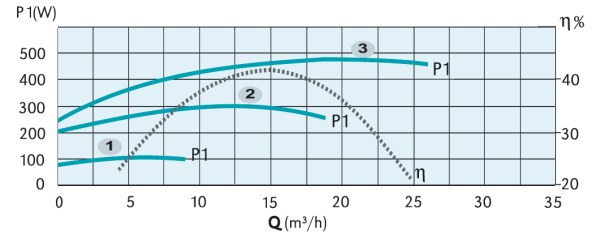
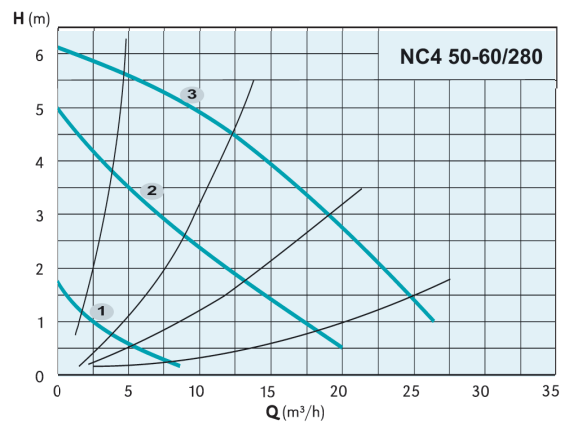
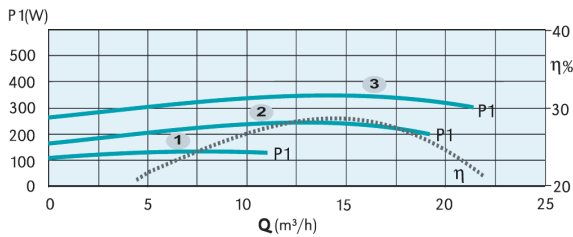
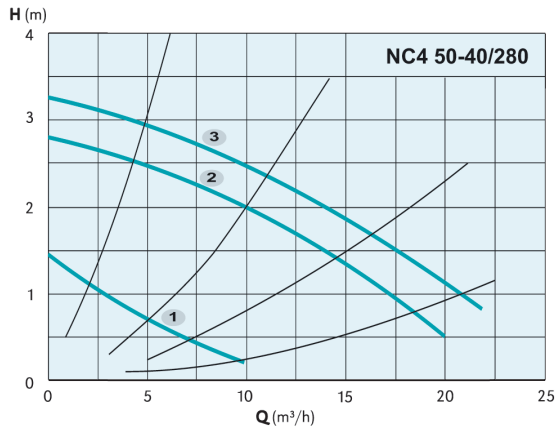


| TYPE | DN | PN | N° Poli 2 4 | Pos. | 1/min | P1 (W) | 1x 230 V | |
|----------------|----|------|----------------|------|-------|-----------|----------|------|
| | | | | | | | [A] | [kg] |
| NCM 40-60/250 | 40 | 6/10 | ✓ | 3 | 2690 | 285 | 1,20 | 17,5 |
| | | | | 2 | 2360 | 245 | 1,18 | |
| | | |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

NC

3 Speed, Flanged Type Circulation Pumps

NC 50

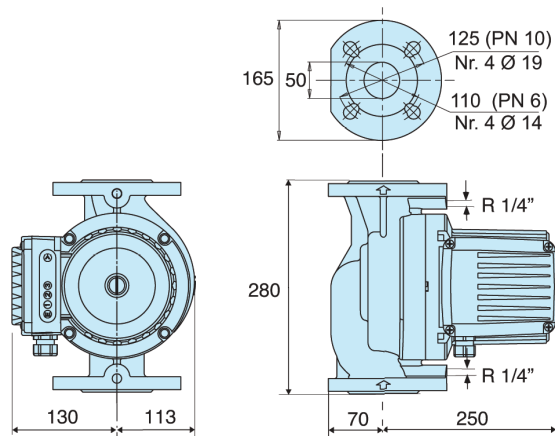
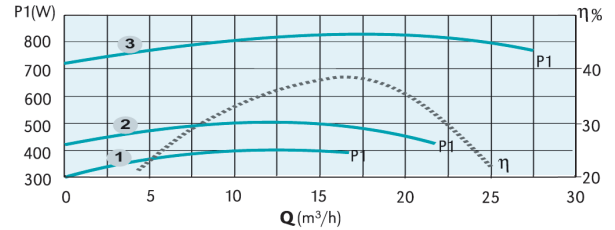
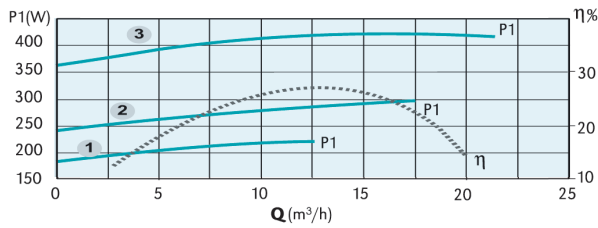
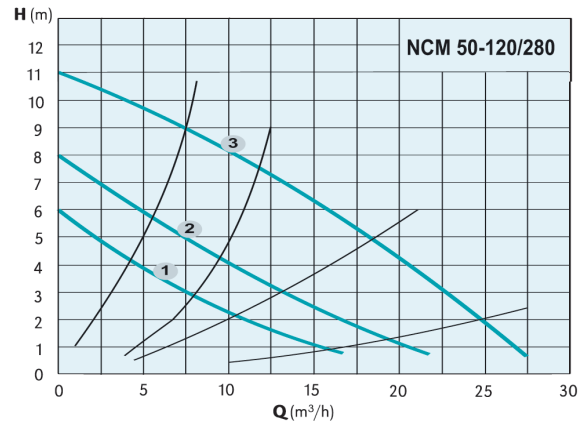
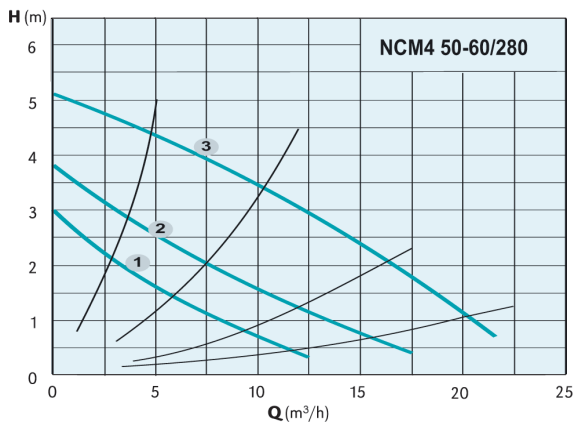


| TYPE | DN | PN | N° Poli 2 4 | Pos. | 1/min | P1 (W) | 3x 400 V [A] | [kg] |
|---------------|----|------|------------------|------|-------|-----------|--------------------|------|
| NC4 50-40/280 | 50 | 6/10 | ✓ | 3 | 1450 | 340 | 1,05 | 24,0 |
| | | | | 2 | 1220 | 240 | 0,44 | |
| | | | | 1 | 620 | 120 | 0,22 | |
| NC4 50-60/280 | 50 | 6/10 | ✓ | 3 | 1400 | 470 | 1,15 | 24,0 |
| | | | | 2 | 1000 | 300 | 0,55 | |
| | | | | 1 | 560 | 100 | 0,20 | |
| NC 50-120/280 | 50 | 6/10 | ✓ | 3 | 2800 | 950 | 1,73 | 24,0 |
| | | | | 2 | 2330 | 540 | 1,05 | |
| | | | | 1 | 1270 | 265 | 0,46 | |

NC

3 Speed, Flanged Type Circulation Pumps

NCM 50

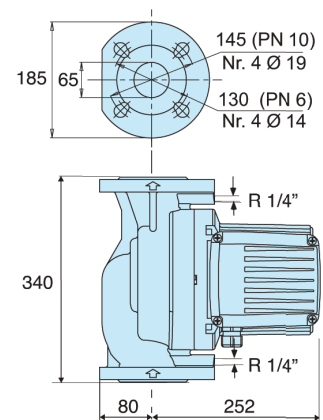
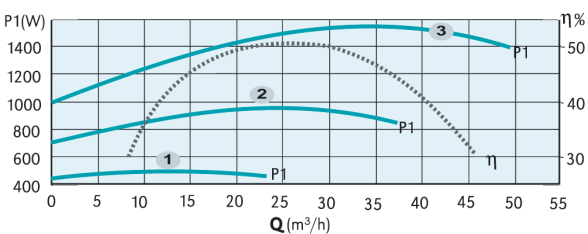
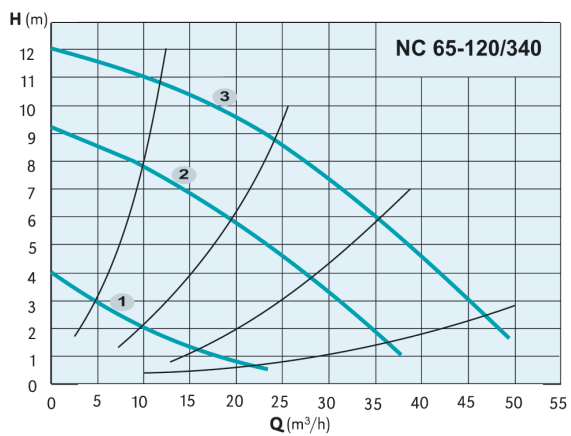
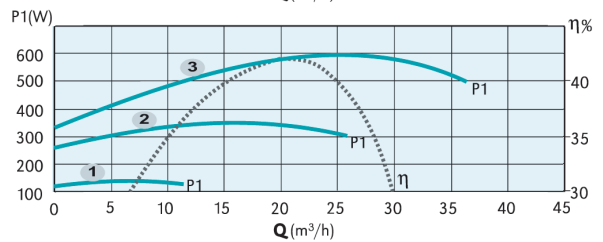
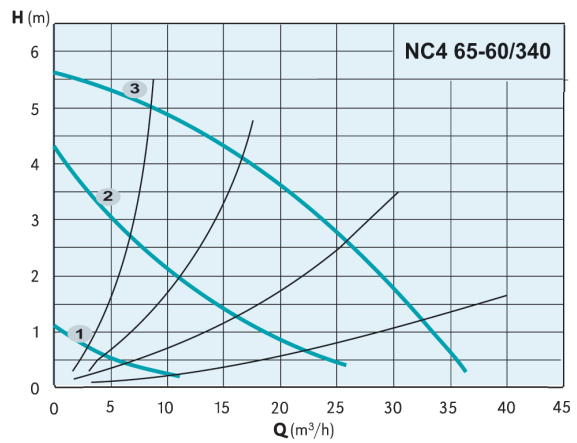
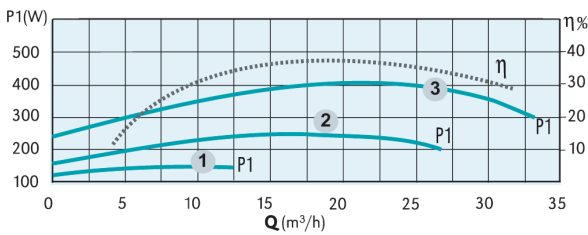
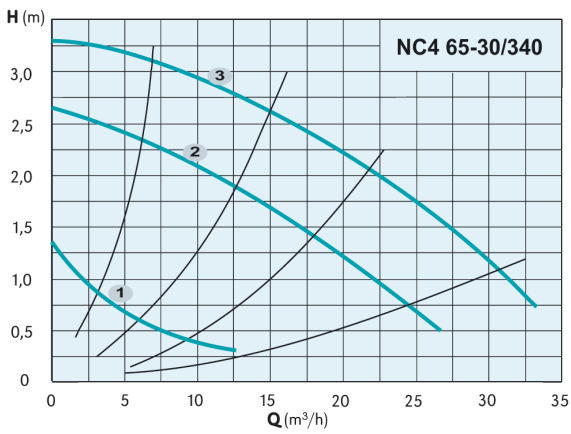


| TYPE | DN | PN | N° Poli | | Pos. | 1/min | P1 (W) | 1x 230 V [A] | [kg] |
|----------------|----|------|---------|---|------|-------|--------|--------------|------|
| | | | 2 | 4 | | | | | |
| NCM4 50-60/280 | 50 | 6/10 | ✓ | 3 | 1260 | 415 | 1,8 | 24,5 | |
| | | | | 2 | 1030 | 300 | 1,3 | | |
| | | | | 1 | 740 | 230 | 1,0 | | |
| NCM 50-120/280 | 50 | 6/10 | ✓ | 3 | 2720 | 830 | 3,6 | 24,5 | |
| | | | | 2 | 1870 | 480 | 2,1 | | |
| | | | | 1 | 1450 | 390 | 1,7 | | |

NC

3 Speed, Flanged Type Circulation Pumps

NC 65

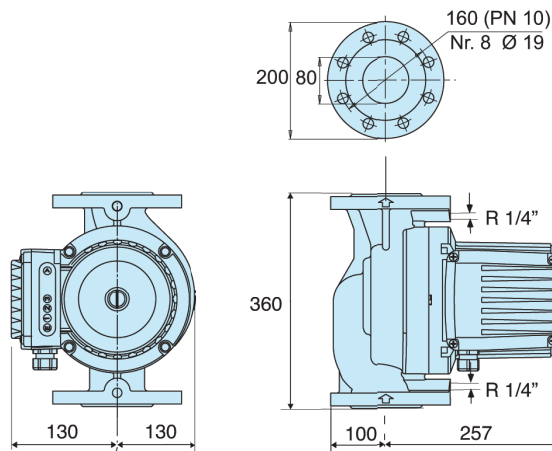
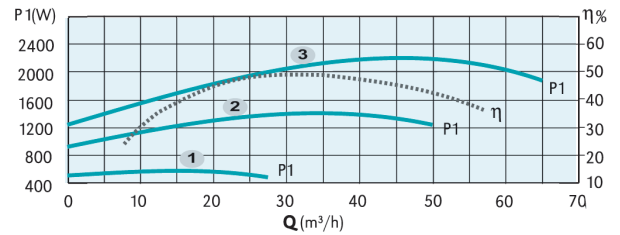
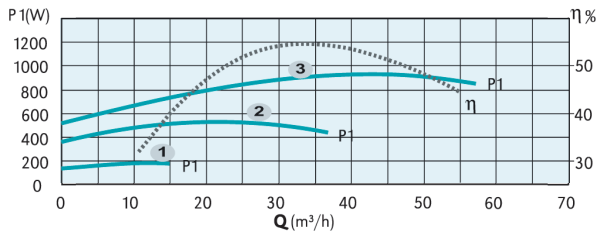
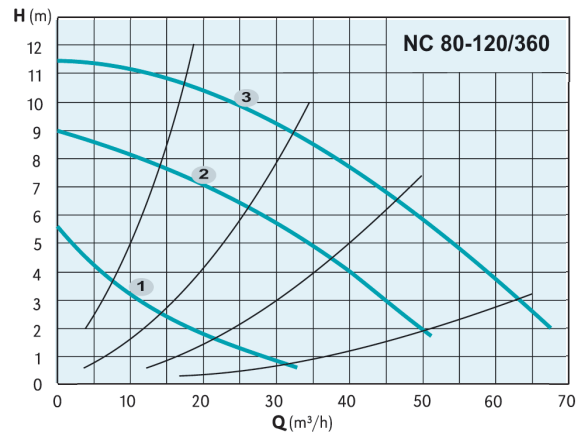
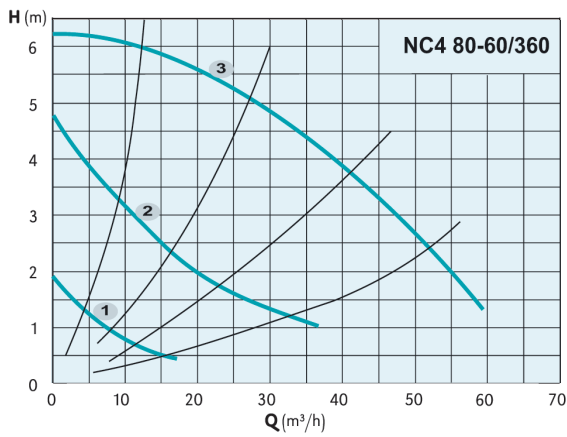


| TYPE | DN | PN | N° Poli 2 4 | Pos. | 1/min | P1 (W) | 3x 400 V [A] | [kg] |
|---------------|----|------|----------------|------|-------|-----------|--------------------|------|
| NC4 65-30/340 | 65 | 6/10 | ✓ | 3 | 1430 | 400 | 1,10 | 29,0 |
| | | | | 2 | 1150 | 260 | 0,50 | |
| | | | | 1 | 600 | 120 | 0,22 | |
| NC4 65-60/340 | 65 | 6/10 | ✓ | 3 | 1370 | 600 | 1,25 | 29,0 |
| | | | | 2 | 950 | 360 | 0,64 | |
| | | | | 1 | 450 | 120 | 0,22 | |
| NC 65-120/340 | 65 | 6/10 | ✓ | 3 | 2810 | 1560 | 2,80 | 31,0 |
| | | | | 2 | 2200 | 960 | 1,70 | |
| | | | | 1 | 1250 | 460 | 0,84 | |

NC

3 Speed, Flanged Type Circulation Pumps

NC 80



| TYPE | DN | PN | N° Poli | | Pos. | 1/min | P1 (W) | 3x 400 V | |
|---------------|----|----|---------|---|------|-------|--------|----------|------|
| | | | 2 | 4 | | | | [A] | [kg] |
| NC4 80-60/360 | 80 | 10 | ✓ | | 3 | 1350 | 960 | 2,20 | 33,5 |
| | | | | | 2 | 1000 | 560 | 1,10 | |
| | | | | | 1 | 600 | 200 | 0,38 | |
| NC 80-120/360 | 80 | 10 | ✓ | | 3 | 2800 | 2200 | 3,80 | 34,5 |
| | | | | | 2 | 2160 | 1400 | 2,40 | |
| | | | | | 1 | 1200 | 550 | 1,05 | |

NCD

3 Speed, Flanged Type Circulation Pumps



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 |
| NCD40 | 0,05 | 0,8 | 1,4 |
| NCD50 | 0,3 | 1 | 1,6 |
| NCD65 | 0,3 | 1 | 1,6 |
| NCD80 | 0,3 | 1 | 1,6 |

Motor

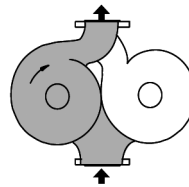
2-4-pole induction motor, 50 Hz. Three adjustable speeds.

NCD: three-phase 230V or 400 V.

NCDM: single-phase 230 V. Insulation class H.

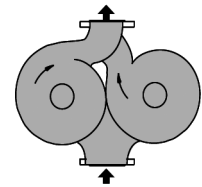
Protection IP 43.

Operation



Single operation

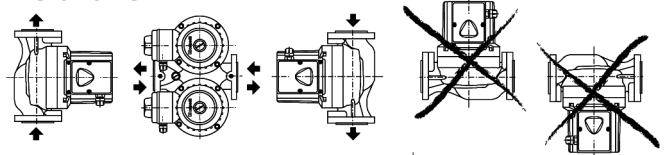
Operation of a single pump choosed by the customer, with the second pump on stand-by



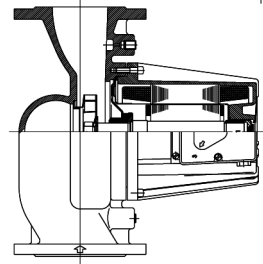
Double operation

Operation in parallel of the two pumps

Installation



Cross section drawings



Designation

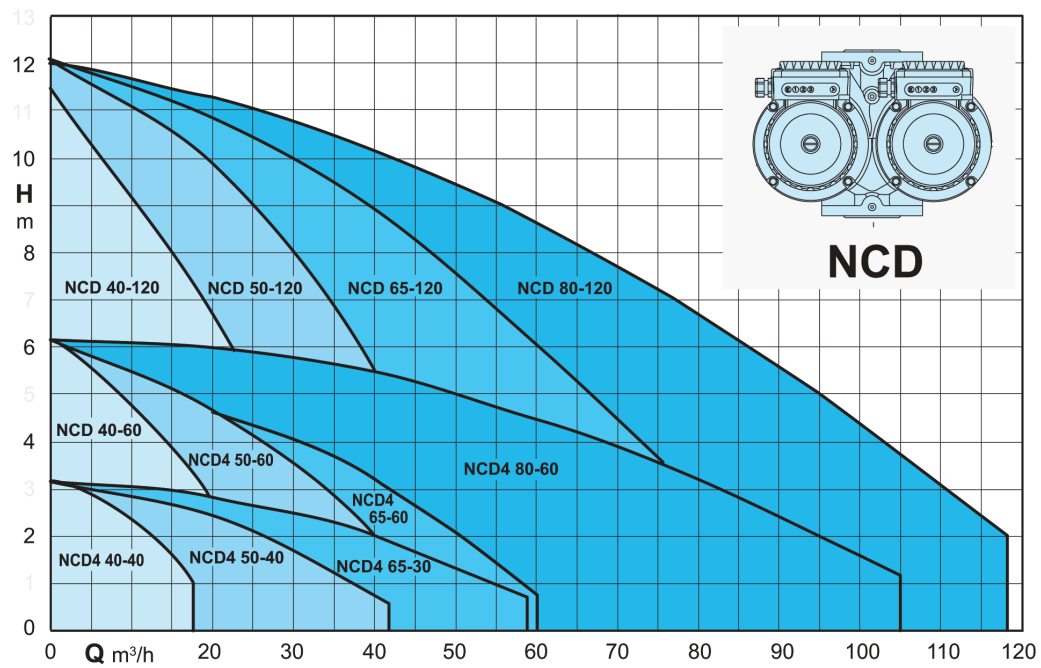
NC D (M) 4 40 - 60 / 250

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

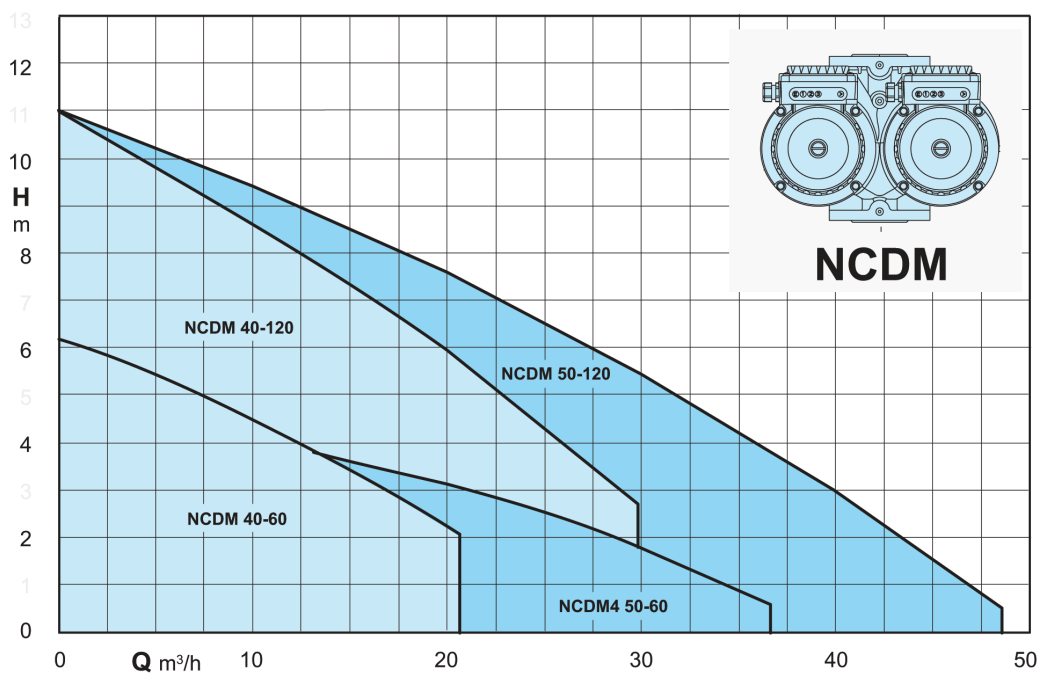
NCD

3 Speed, Flanged Type Circulation Pumps

Coverage Chart



Tolerances according to ISO 9906, annex A.

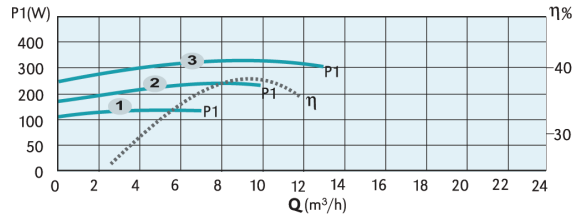
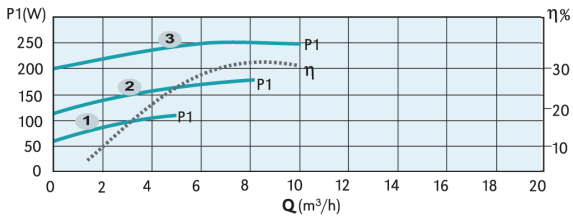
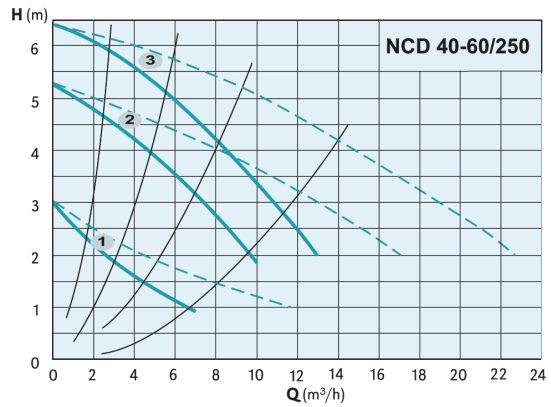
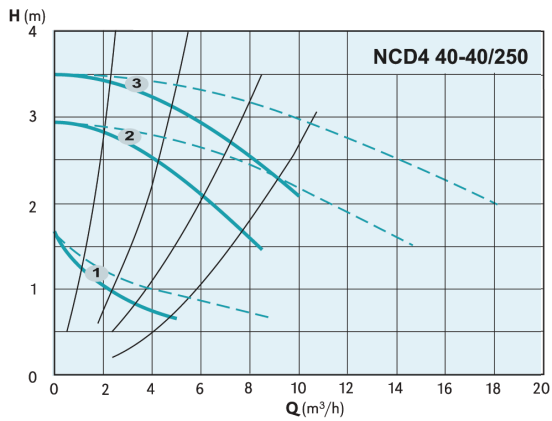


Tolerances according to ISO 9906, annex A.

NCD

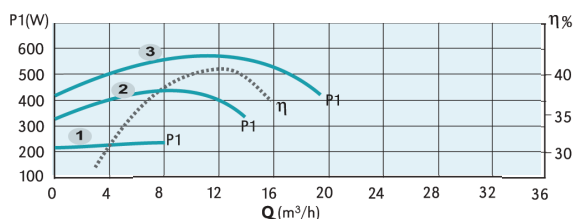
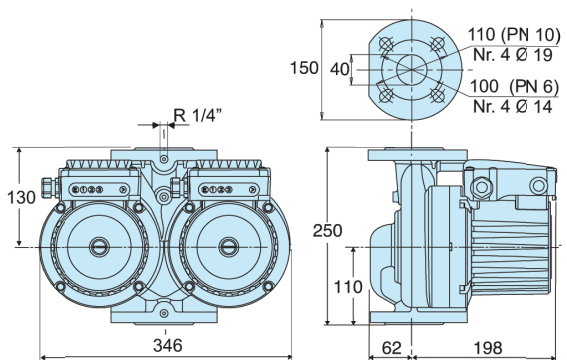
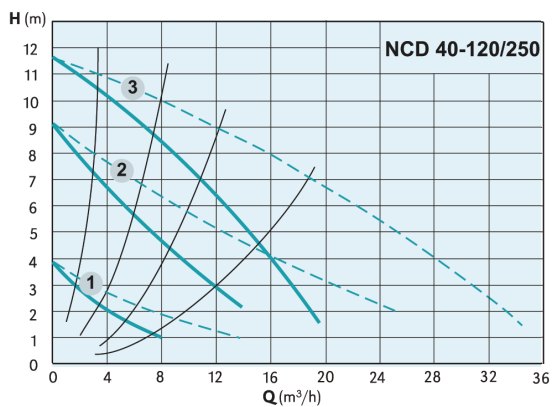
3 Speed, Flanged Type Circulation Pumps

NCD 40



— Single operation
- - - Operation in parallel

— Single operation
- - - Operation in parallel



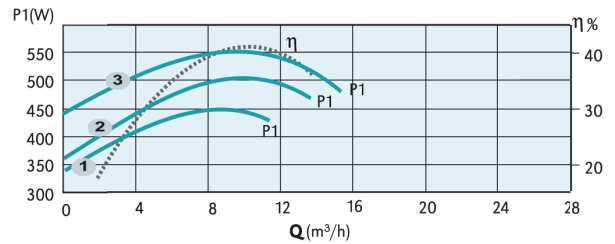
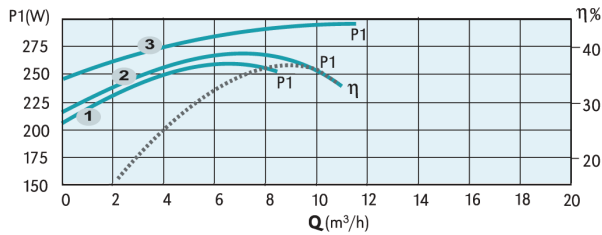
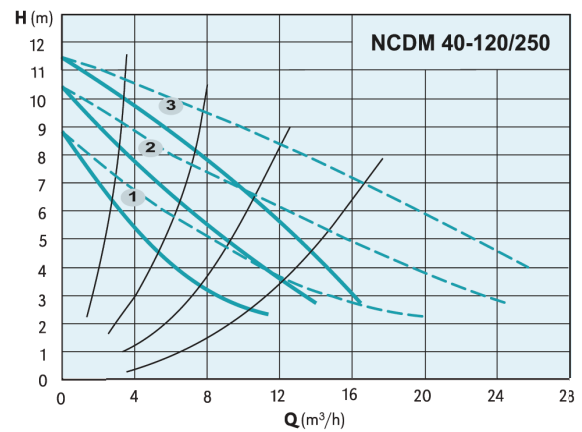
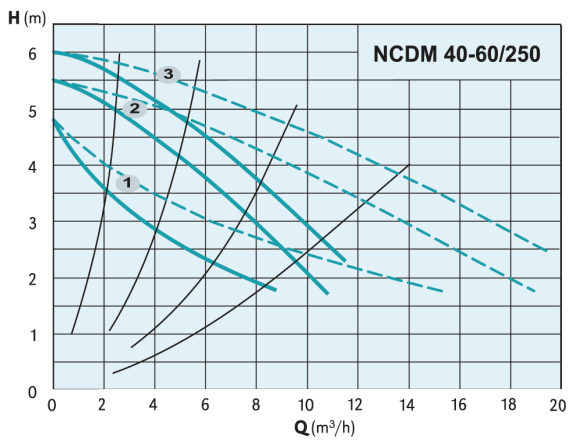
— Single operation
- - - Operation in parallel

| TYPE | DN | PN | N° Poli | | 1/min | P1 (W) | 3x 400 V | |
|----------------|----|------|---------|---|-------|--------|----------|------|
| | | | 2 | 4 | | | Pos. | [A] |
| NCD4 40-40/250 | 40 | 6/10 | ✓ | 3 | 1440 | 240 | 0,76 | 34,0 |
| | | | | 2 | 1200 | 160 | 0,24 | |
| | | | | 1 | 660 | 100 | 0,11 | |
| NCD 40-60/250 | 40 | 6/10 | ✓ | 3 | 2790 | 320 | 0,74 | 35,0 |
| | | | | 2 | 2240 | 240 | 0,36 | |
| | | | | 1 | 1440 | 140 | 0,18 | |
| NCD 40-120/250 | 40 | 6/10 | ✓ | 3 | 2820 | 560 | 1,16 | 35,0 |
| | | | | 2 | 2200 | 400 | 0,64 | |
| | | | | 1 | 1250 | 220 | 0,26 | |

NCD

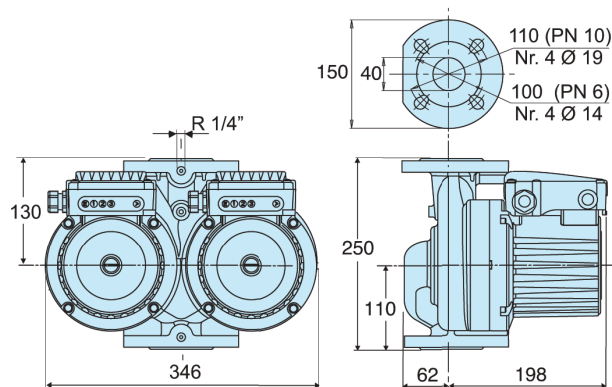
3 Speed, Flanged Type Circulation Pumps

NCDM 40



— Single operation
- - - Operation in parallel

— Single operation
- - - Operation in parallel

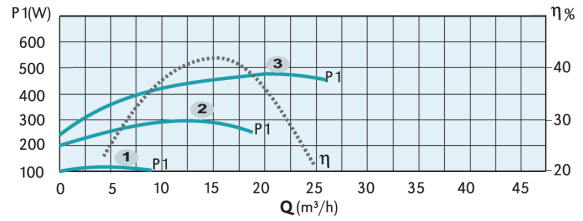
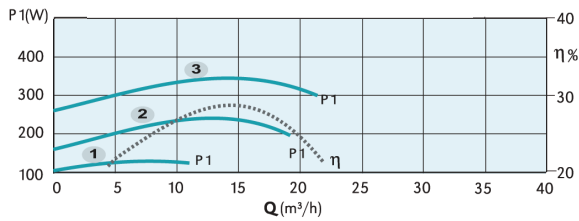
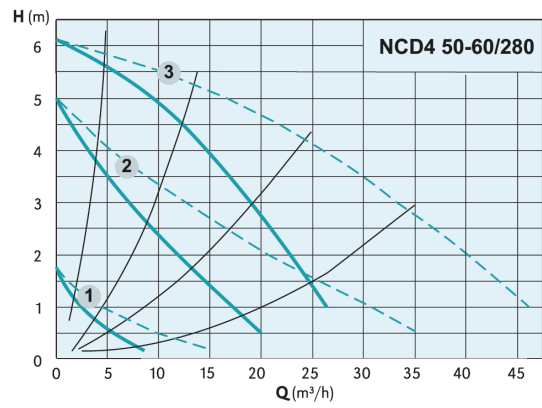
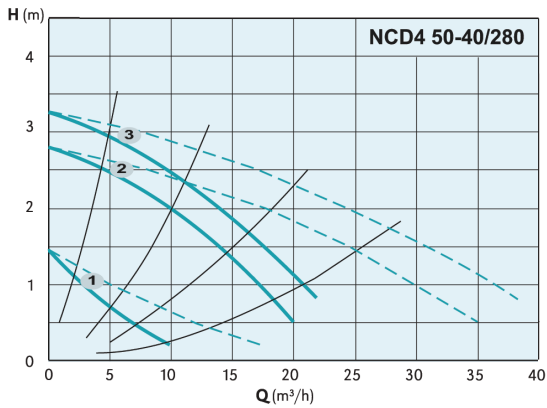


| TYPE | DN PN | | N° Poli 2 4 | Pos. | 1/min | P1 (W) | 1x 230 V | |
|-----------------|-------|------|----------------|------|-------|-----------|----------|------|
| | | | | | | | [A] | [kg] |
| NCDM 40-60/250 | 40 | 6/10 | ✓ | 3 | 2690 | 285 | 1,20 | 35,0 |
| | | | | 2 | 2360 | 245 | 1,18 | |
| |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

NCD

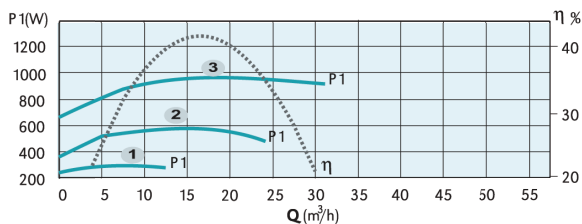
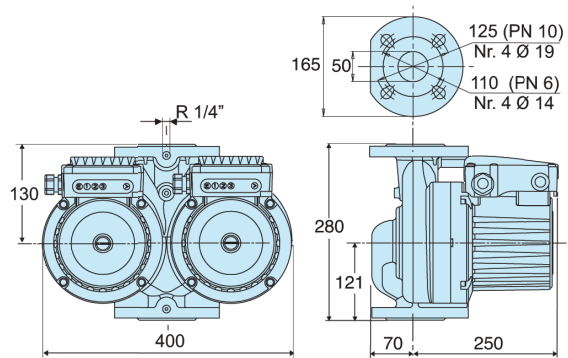
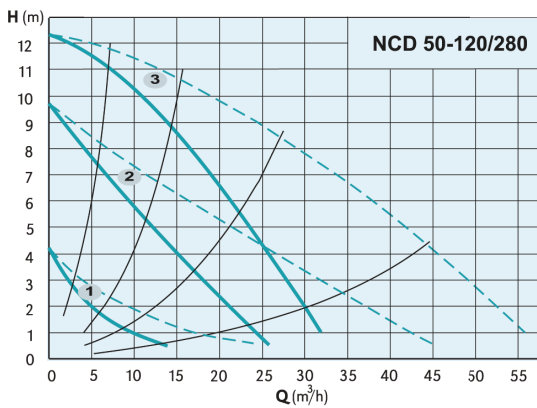
3 Speed, Flanged Type Circulation Pumps

NCD 50



— Single operation
- - - Operation in parallel

— Single operation
- - - Operation in parallel



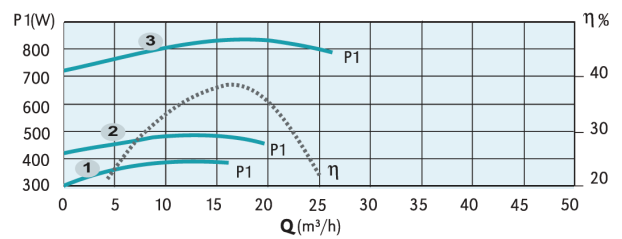
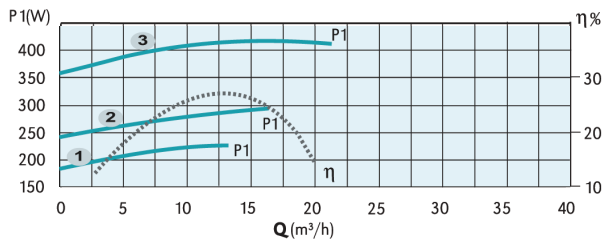
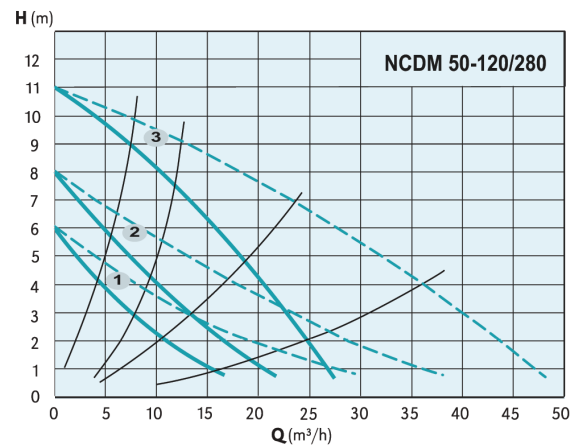
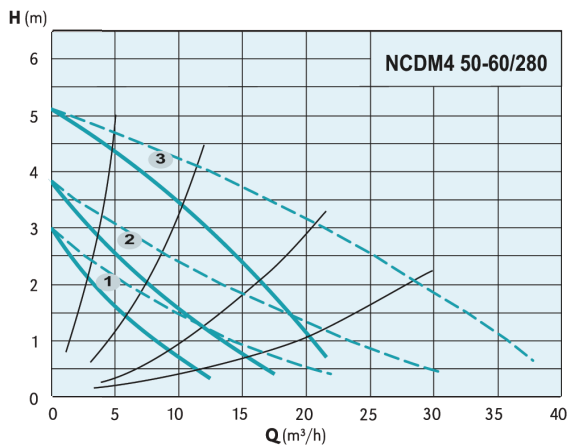
— Single operation
- - - Operation in parallel

| TYPE | DN | PN | N° Poli 2 4 | Pos. | 1/min | P1 (W) | 3x 400 V [A] | [kg] |
|----------------|----|------|----------------|------|-------|-----------|--------------------|------|
| NCD4 50-40/280 | 50 | 6/10 | ✓ | 3 | 1450 | 340 | 1,05 | 44,0 |
| | | | | 2 | 1220 | 240 | 0,44 | |
| | | | | 1 | 620 | 120 | 0,22 | |
| NCD4 50-60/280 | 50 | 6/10 | ✓ | 3 | 1400 | 470 | 1,15 | 44,0 |
| | | | | 2 | 1000 | 300 | 0,55 | |
| | | | | 1 | 560 | 100 | 0,20 | |
| NCD 50-120/280 | 50 | 6/10 | ✓ | 3 | 2800 | 950 | 1,73 | 44,0 |
| | | | | 2 | 2330 | 540 | 1,05 | |
| | | | | 1 | 1270 | 265 | 0,46 | |

NCD

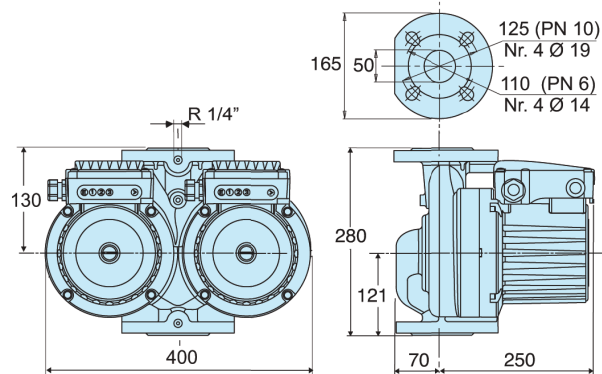
3 Speed, Flanged Type Circulation Pumps

NCDM 50



— Single operation
- - - Operation in parallel

— Single operation
- - - Operation in parallel

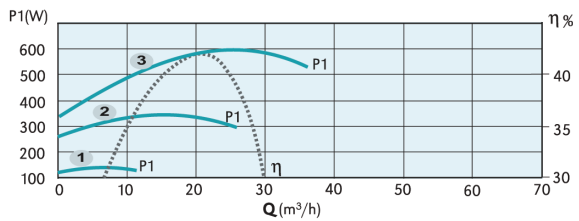
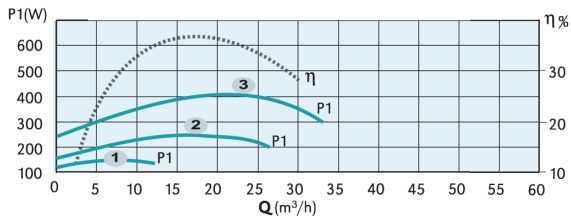
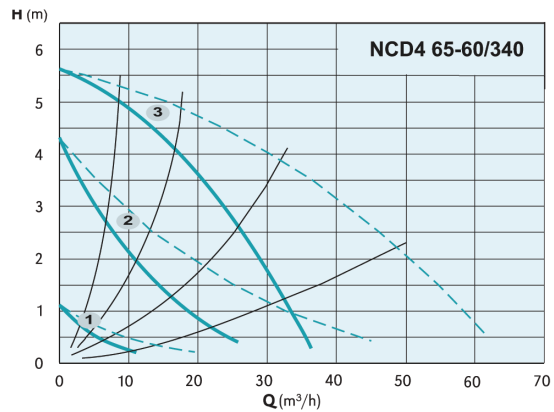
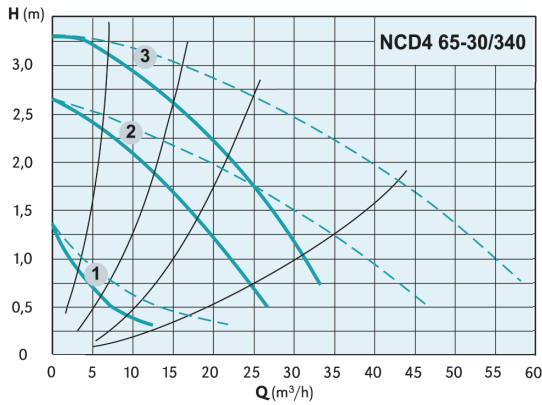


| TYPE | DN | PN | N° Poli | | 1/min | P1 (W) | 1x 230 V [A] | [kg] |
|-----------------|----|------|---------|---|-------|--------|--------------|------|
| | | | 2 | 4 | | | | |
| NCDM4 50-60/280 | 50 | 6/10 | ✓ | 3 | 1260 | 415 | 1,8 | 44,0 |
| | | | | 2 | 1030 | 300 | 1,3 | |
| | | | | 1 | 740 | 230 | 1,0 | |
| NCDM 50-120/280 | 50 | 6/10 | ✓ | 3 | 2720 | 830 | 3,6 | 44,0 |
| | | | | 2 | 1870 | 480 | 2,1 | |
| | | | | 1 | 1450 | 390 | 1,7 | |

NCD

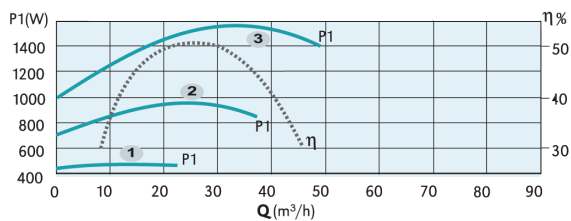
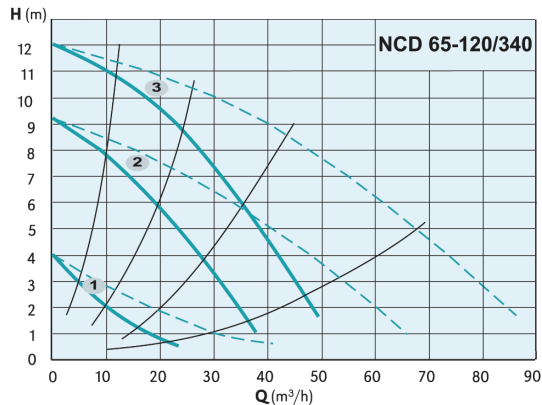
3 Speed, Flanged Type Circulation Pumps

NCD 65

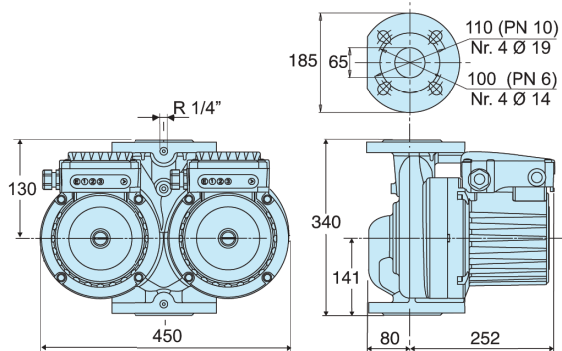


— Single operation
- - - Operation in parallel

— Single operation
- - - Operation in parallel



— Single operation
- - - Operation in parallel

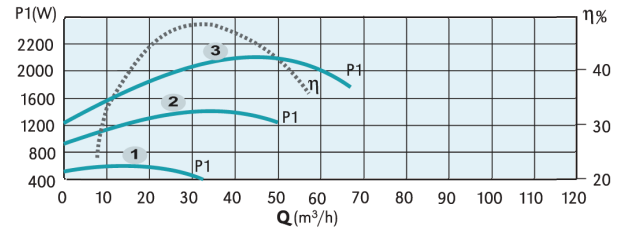
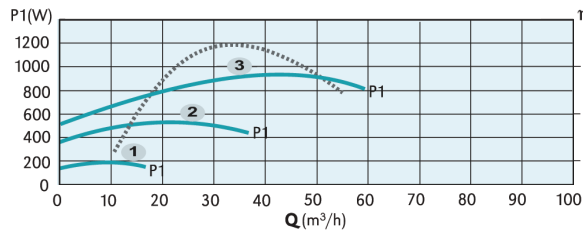
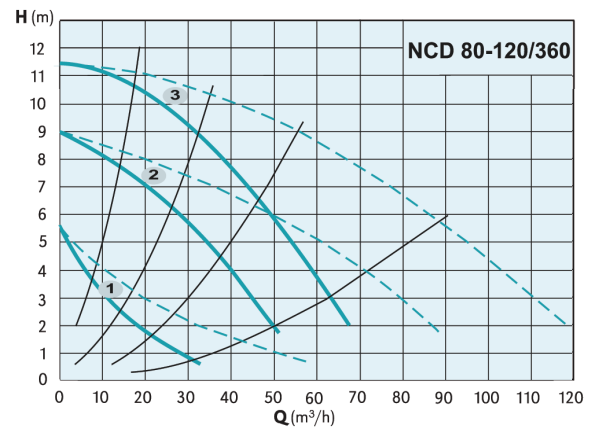
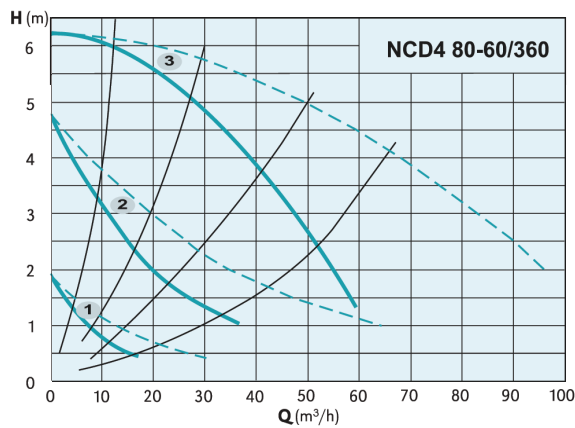


| TYPE | DN | PN | N° Poli | | 1/min | P1 (W) | 3x 400 V [A] | [kg] |
|----------------|----|------|---------|---|-------|--------|--------------|------|
| | | | 2 | 4 | | | | |
| NCD4 65-30/340 | 65 | 6/10 | ✓ | 3 | 1430 | 400 | 1,10 | 49,0 |
| | | | | 2 | 1150 | 260 | 0,50 | |
| | | | | 1 | 600 | 120 | 0,22 | |
| NCD4 65-60/340 | 65 | 6/10 | ✓ | 3 | 1370 | 600 | 1,25 | 49,0 |
| | | | | 2 | 950 | 360 | 0,64 | |
| | | | | 1 | 450 | 120 | 0,22 | |
| NCD 65-120/340 | 65 | 6/10 | ✓ | 3 | 2810 | 1560 | 2,80 | 54,0 |
| | | | | 2 | 2200 | 960 | 1,70 | |
| | | | | 1 | 1250 | 460 | 0,84 | |

NCD

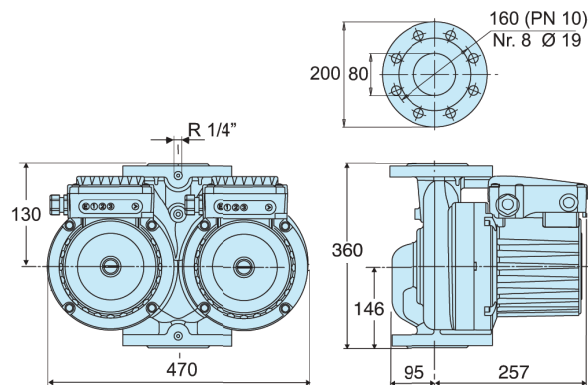
3 Speed, Flanged Type Circulation Pumps

NCD 80



— Single operation
- - - Operation in parallel

— Single operation
- - - Operation in parallel



| TYPE | DN | PN | N° Poli | | 1/min | P1 (W) | 3x 400 V | |
|----------------|----|----|---------|---|-------|--------|----------|------|
| | | | 2 | 4 | | | [A] | [kg] |
| NCD4 80-60/360 | 80 | 10 | ✓ | | 3 | 1350 | 960 | 2,20 |
| | | | | | 2 | 1000 | 560 | 1,10 |
| | | | | | 1 | 600 | 200 | 0,38 |
| NCD 80-120/360 | 80 | 10 | ✓ | | 3 | 2800 | 2200 | 3,80 |
| | | | | | 2 | 2160 | 1400 | 2,40 |
| | | | | | 1 | 1200 | 550 | 1,05 |