

## NOCCHI VARIO 1-20

### PRESSURE BOOSTER SET WITH TWO VARIABLE SPEED PUMPS

The new series of variable speed pressurization booster set VARIO 1-20 represents a reliable solution which is easy to use, for residential and industrial applications. The system involves the installation in parallel of two inverters integrated directly on the motor of each pump installed. The two frequency converters communicate and alternate the starting order of each work cycle, always keeping the pressure constant in the distribution system.

#### APPLICATIONS

- Lifting and distribution of water in domestic systems
- Pressurization systems
- Irrigation
- Industry
- Washes

#### BASE

- in galvanized metal complete with rubber isolated pads

#### SUCTION MANIFOLD

in galvanized steel with:

- N.2 brass ball valves

#### TECHNICAL CHARACTERISTICS

- Supply voltage: inverter 1x230 Vac  $\pm$  10%.
- Inverter output voltage: 3x230 Vac  $\pm$  10 %
- Maximum rated power: 2x2.4 kW
- Input frequency: 50/60 Hz + 3%
- Output maximum rated power: 8 Amp
- Degree of protection: IP55 MULTINOX VE+ / PVM
- Maximum temperature + 50°C
- Input filter complying with EMC directive
- Pressure transducer 0 - 5 Volt - 0 - 10 Bar
- Serial interface connectivity RS 485
- Optional contacts 3 (external set-point, alarm, system inhibition)



#### DELIVERY MANIFOLD

in galvanized steel with:

- N.2 brass ball valves
- N.1 pressure gauge
- N.2 pressure sensors

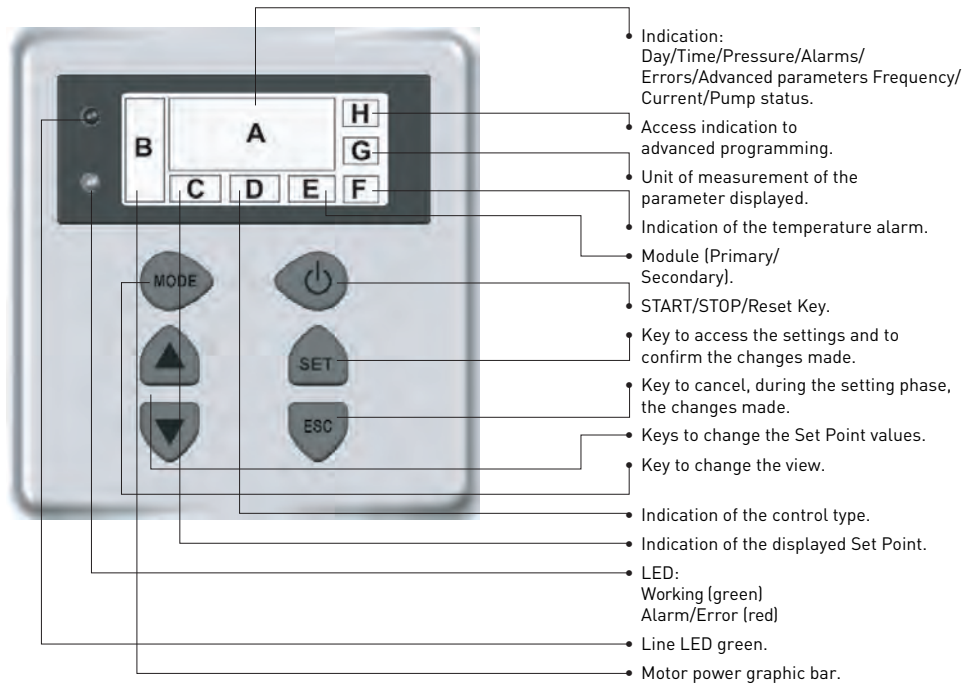
Protection electrical panel with circuit breakers

| USAGE DATA                               | MULTINOX-VE+ | PVM 1  | PVM 3 | PVM 5 | PVM 10 |
|--|--------------|--------|-------|-------|--------|
| Maximum capacity (m <sup>3</sup> /h)     | 25.2         | 4.8    | 9     | 17    | 26     |
| Maximum head (m.c.a.)                    | 80           | 160    | 160   | 110   | 60     |
| Maximum operating pressure               | 14 bar       | 16 bar |       |       |        |
| Power supply VOLT.:                      | 1~230 V      |        |       |       |        |
| Ambient temperature                      | 50° C        |        |       |       |        |
| Degree of protection of pump             | IP44         | IP55   |       |       |        |
| Degree of protection of electrical panel | IP54         |        |       |       |        |

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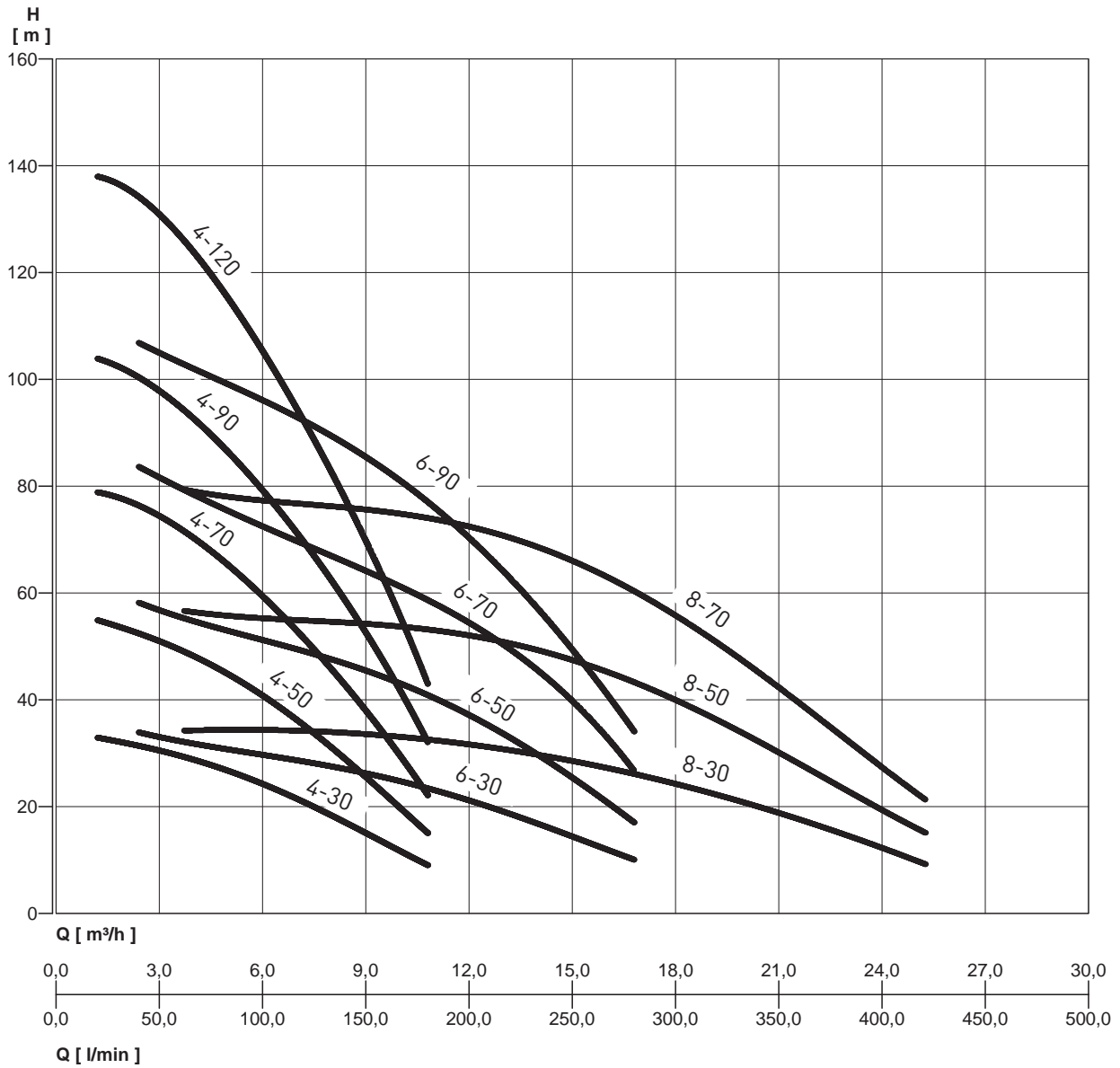
### CONTROL PANEL



- Backlight display (switches off automatically after a reset time and can be turned on again by pressing any key)

# NOCCHI VARIO 1-20 MULTINOX VE + PRESSURE BOOSTER SET WITH TWO VARIABLE SPEED PUMPS

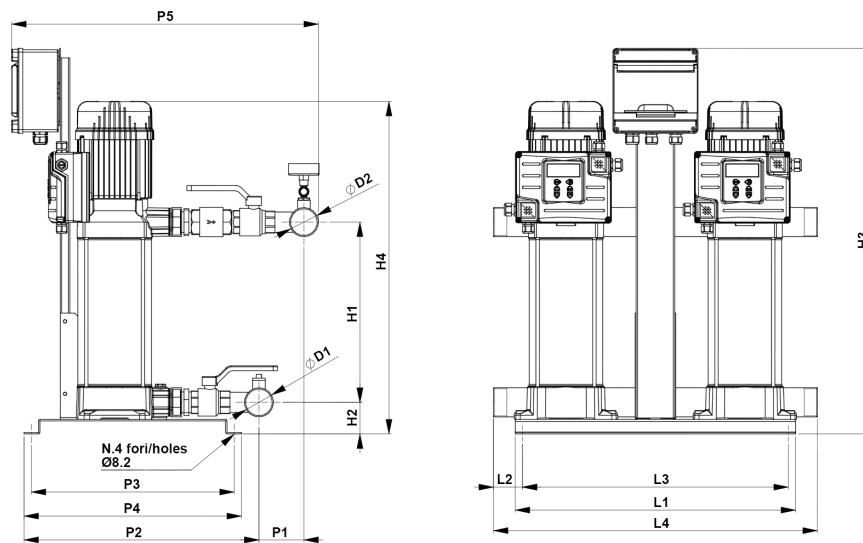
## HYDRAULIC PERFORMANCE



# NOCCHI VARIO 1-20 MULTINOX VE + PRESSURE BOOSTER SET WITH TWO VARIABLE SPEED PUMPS

## PERFORMANCE TABLE

| MODEL                        | P2     | VOLT. (V) | In (A)  | Q      | l/min |     |     |     |     |     |     |     |     |      |     |      |      |     |      |      |  |
|------------------------------|--------|-----------|---------|--------|-------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|------|-----|------|------|--|
|                              | kW     |           |         |        | 20    | 40  | 60  | 80  | 100 | 120 | 140 | 160 | 180 | 200  | 240 | 280  | 300  | 360 | 420  |      |  |
|                              |        |           |         |        | m³/h  | 1,2 | 2,4 | 3,6 | 4,8 | 6   | 7,2 | 8,4 | 9,6 | 10,8 | 12  | 14,4 | 16,8 | 18  | 21,6 | 25,2 |  |
| VARIO1-20 MULTINOX VE+ 4-30  | 2x0,5  | 1 ~ 230   | 2x4.4   | m.c.w. | 33    | 31  | 30  | 27  | 24  | 21  | 17  | 13  | 9   |      |     |      |      |     |      |      |  |
| VARIO1-20 MULTINOX VE+ 4-50  | 2x0,84 | 1 ~ 230   | 2x6.71  |        | 55    | 52  | 50  | 45  | 41  | 35  | 29  | 22  | 15  |      |     |      |      |     |      |      |  |
| VARIO1-20 MULTINOX VE+ 4-70  | 2x1,17 | 1 ~ 230   | 2x9.39  |        | 79    | 76  | 72  | 67  | 59  | 51  | 43  | 33  | 22  |      |     |      |      |     |      |      |  |
| VARIO1-20 MULTINOX VE+ 4-90  | 2x1,5  | 1 ~ 230   | 2x12.08 |        | 104   | 100 | 95  | 88  | 79  | 69  | 59  | 46  | 32  |      |     |      |      |     |      |      |  |
| VARIO1-20 MULTINOX VE+ 4-120 | 2x2    | 1 ~ 230   | 2x16.3  |        | 138   | 134 | 127 | 117 | 105 | 92  | 78  | 61  | 43  |      |     |      |      |     |      |      |  |
| VARIO1-20 MULTINOX VE+ 6-30  | 2x0,67 | 1 ~ 230   | 2x5.95  |        |       | 34  | 32  | 31  | 30  | 28  | 27  | 26  | 23  | 21   | 16  | 10   |      |     |      |      |  |
| VARIO1-20 MULTINOX VE+ 6-50  | 2x1,1  | 1 ~ 230   | 2x9.02  |        |       | 58  | 56  | 53  | 51  | 49  | 47  | 44  | 41  | 37   | 28  | 17   |      |     |      |      |  |
| VARIO1-20 MULTINOX VE+ 6-70  | 2x1,5  | 1 ~ 230   | 2x13.82 |        |       | 83  | 80  | 77  | 76  | 61  | 68  | 64  | 59  | 55   | 42  | 27   |      |     |      |      |  |
| VARIO1-20 MULTINOX VE+ 6-90  | 2x2    | 1 ~ 230   | 2x15.75 |        |       | 107 | 103 | 99  | 97  | 92  | 88  | 83  | 76  | 71   | 54  | 34   |      |     |      |      |  |
| VARIO1-20 MULTINOX VE+ 8-30  | 2x1    | 1 ~ 230   | 2x8.7   |        |       |     |     | 35  | 35  | 35  | 35  | 35  | 34  | 33   | 32  | 30   | 27   | 25  | 18   | 10   |  |
| VARIO1-20 MULTINOX VE+ 8-50  | 2x1,5  | 1 ~ 230   | 2x14.4  |        |       |     |     | 57  | 57  | 56  | 56  | 56  | 54  | 53   | 52  | 50   | 45   | 40  | 28   | 16   |  |
| VARIO1-20 MULTINOX VE+ 8-70  | 2x1,9  | 1 ~ 230   | 2x15.5  |        |       |     |     | 80  | 79  | 78  | 78  | 77  | 75  | 74   | 73  | 70   | 60   | 56  | 40   | 22   |  |



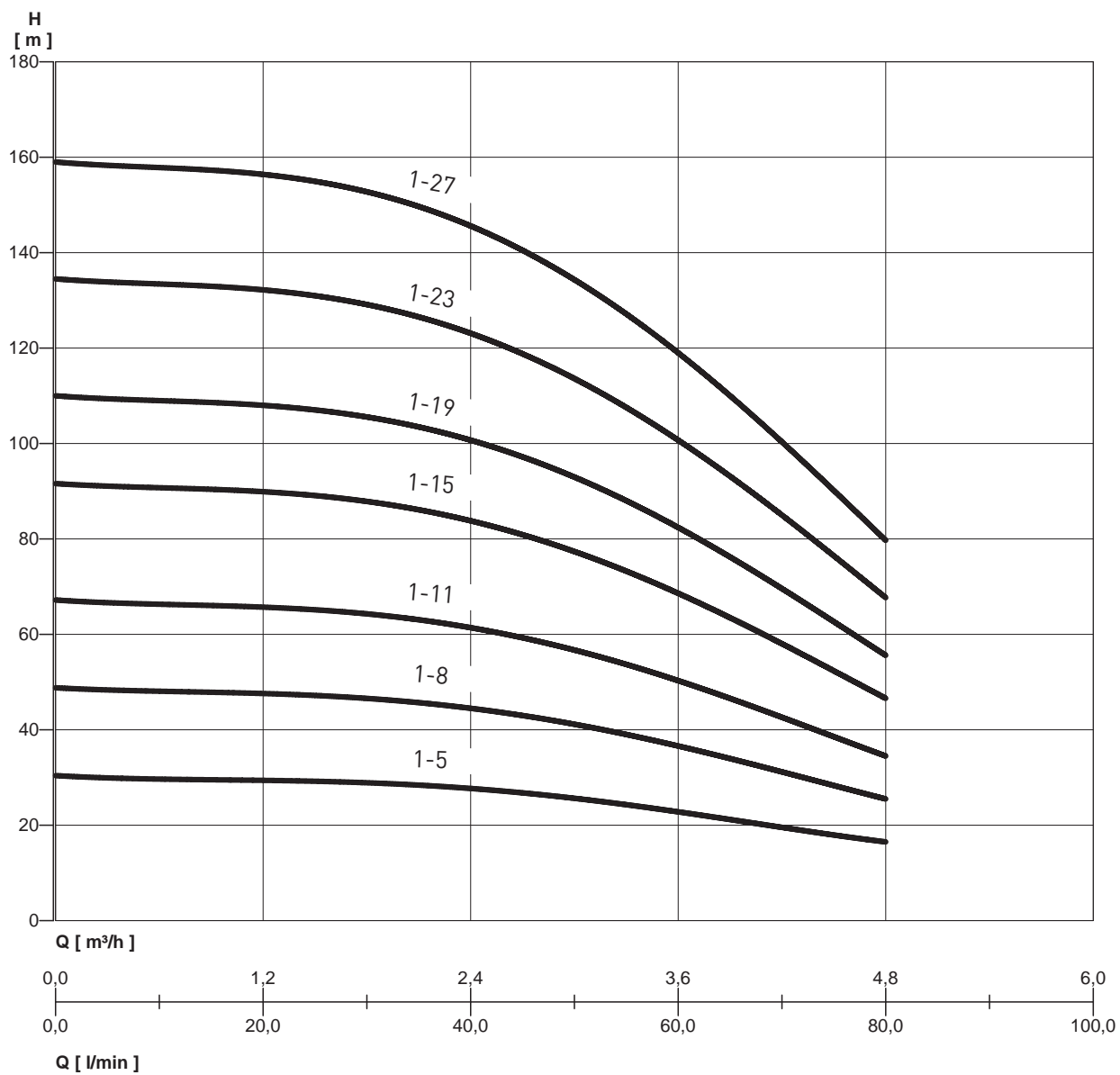
## OVERALL DIMENSIONS AND WEIGHTS

| MODEL                        | Dimensions mm. |    |     |     |    |     |     |     |     |     |    |     |     | WEIGHT Kg |     |    |  |
|------------------------------|----------------|----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|-----------|-----|----|--|
|                              | L1             | L2 | L3  | L4  | P1 | P2  | P3  | P4  | P5  | H1  | H2 | H3  | H4  | ØD1       | ØD2 |    |  |
| VARIO1-20 MULTINOX VE+ 4-30  | 580            | 70 | 530 | 670 | 90 | 485 | 420 | 450 | 635 | 130 | 65 | 800 | 446 | 2"        | 2"  | 71 |  |
| VARIO1-20 MULTINOX VE+ 4-50  | 580            | 70 | 530 | 670 | 90 | 485 | 420 | 450 | 635 | 184 | 65 | 800 | 500 | 2"        | 2"  | 79 |  |
| VARIO1-20 MULTINOX VE+ 4-70  | 580            | 70 | 530 | 670 | 90 | 485 | 420 | 450 | 635 | 238 | 65 | 800 | 554 | 2"        | 2"  | 87 |  |
| VARIO1-20 MULTINOX VE+ 4-90  | 580            | 70 | 530 | 670 | 90 | 485 | 420 | 450 | 635 | 292 | 65 | 800 | 608 | 2"        | 2"  | 89 |  |
| VARIO1-20 MULTINOX VE+ 4-120 | 580            | 70 | 530 | 670 | 90 | 485 | 420 | 450 | 635 | 373 | 65 | 800 | 690 | 2"        | 2"  | 93 |  |
| VARIO1-20 MULTINOX VE+ 6-30  | 580            | 70 | 530 | 670 | 90 | 485 | 420 | 450 | 635 | 130 | 65 | 800 | 446 | 2"        | 2"  | 71 |  |
| VARIO1-20 MULTINOX VE+ 6-50  | 580            | 70 | 530 | 670 | 90 | 485 | 420 | 450 | 635 | 184 | 65 | 800 | 500 | 2"        | 2"  | 79 |  |
| VARIO1-20 MULTINOX VE+ 6-70  | 580            | 70 | 530 | 670 | 90 | 485 | 420 | 450 | 635 | 238 | 65 | 800 | 554 | 2"        | 2"  | 87 |  |
| VARIO1-20 MULTINOX VE+ 6-90  | 580            | 70 | 530 | 670 | 90 | 485 | 420 | 450 | 635 | 292 | 65 | 800 | 608 | 2"        | 2"  | 89 |  |
| VARIO1-20 MULTINOX VE+ 8-30  | 580            | 70 | 530 | 670 | 90 | 485 | 420 | 450 | 635 | 130 | 65 | 800 | 446 | 2"        | 2"  | 71 |  |
| VARIO1-20 MULTINOX VE+ 8-50  | 580            | 70 | 530 | 670 | 90 | 485 | 420 | 450 | 635 | 184 | 65 | 800 | 500 | 2"        | 2"  | 79 |  |
| VARIO1-20 MULTINOX VE+ 8-70  | 580            | 70 | 530 | 670 | 90 | 485 | 420 | 450 | 635 | 238 | 65 | 800 | 554 | 2"        | 2"  | 87 |  |

# NOCCHI VARIO 1-20 PVM

## PRESSURE BOOSTER SET WITH TWO VARIABLE SPEED PUMPS

### HYDRAULIC PERFORMANCE

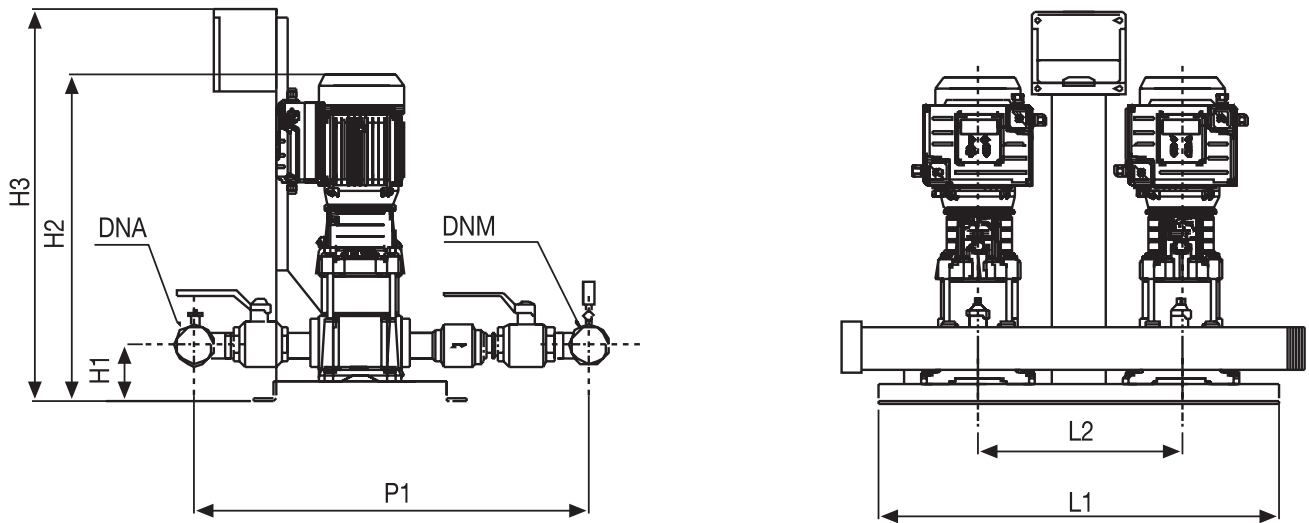


# NOCCHI VARIO 1-20 PVM

## PRESSURE BOOSTER SET WITH TWO VARIABLE SPEED PUMPS

### PERFORMANCE TABLE

| MODEL                | P2     | VOLT. (V) | In (A) | Q      | l/min             | 0     | 20    | 40    | 60   | 80  |
|----------------------|--------|-----------|--------|--------|-------------------|-------|-------|-------|------|-----|
|                      | kW     |           |        |        | m <sup>3</sup> /h | 0     | 1,2   | 2,4   | 3,6  | 4,8 |
| VARIO1-20 PVM 1-5 F  | 2x0,37 | 1 ~ 230   | 2x2,7  | m.c.w. | 30,4              | 29,4  | 27,7  | 22,8  | 16,5 |     |
| VARIO1-20 PVM 1-8 F  | 2x0,55 | 1 ~ 230   | 2x4,1  |        | 48,8              | 47,6  | 44,5  | 36,6  | 25,5 |     |
| VARIO1-20 PVM 1-11 F | 2x0,55 | 1 ~ 230   | 2x4,4  |        | 67,2              | 65,7  | 61,4  | 50,3  | 34,5 |     |
| VARIO1-20 PVM 1-15 F | 2x0,75 | 1 ~ 230   | 2x5,8  |        | 91,6              | 89,9  | 83,8  | 68,6  | 46,6 |     |
| VARIO1-20 PVM 1-19 F | 2x1,1  | 1 ~ 230   | 2x7,4  |        | 110               | 108   | 100,7 | 82,4  | 55,6 |     |
| VARIO1-20 PVM 1-23 F | 2x1,1  | 1 ~ 230   | 2x8,3  |        | 134,5             | 132,2 | 123,1 | 100,7 | 67,7 |     |
| VARIO1-20 PVM 1-27 F | 2x1,5  | 1 ~ 230   | 2x9,9  |        | 159               | 156,4 | 145,6 | 119   | 79,7 |     |



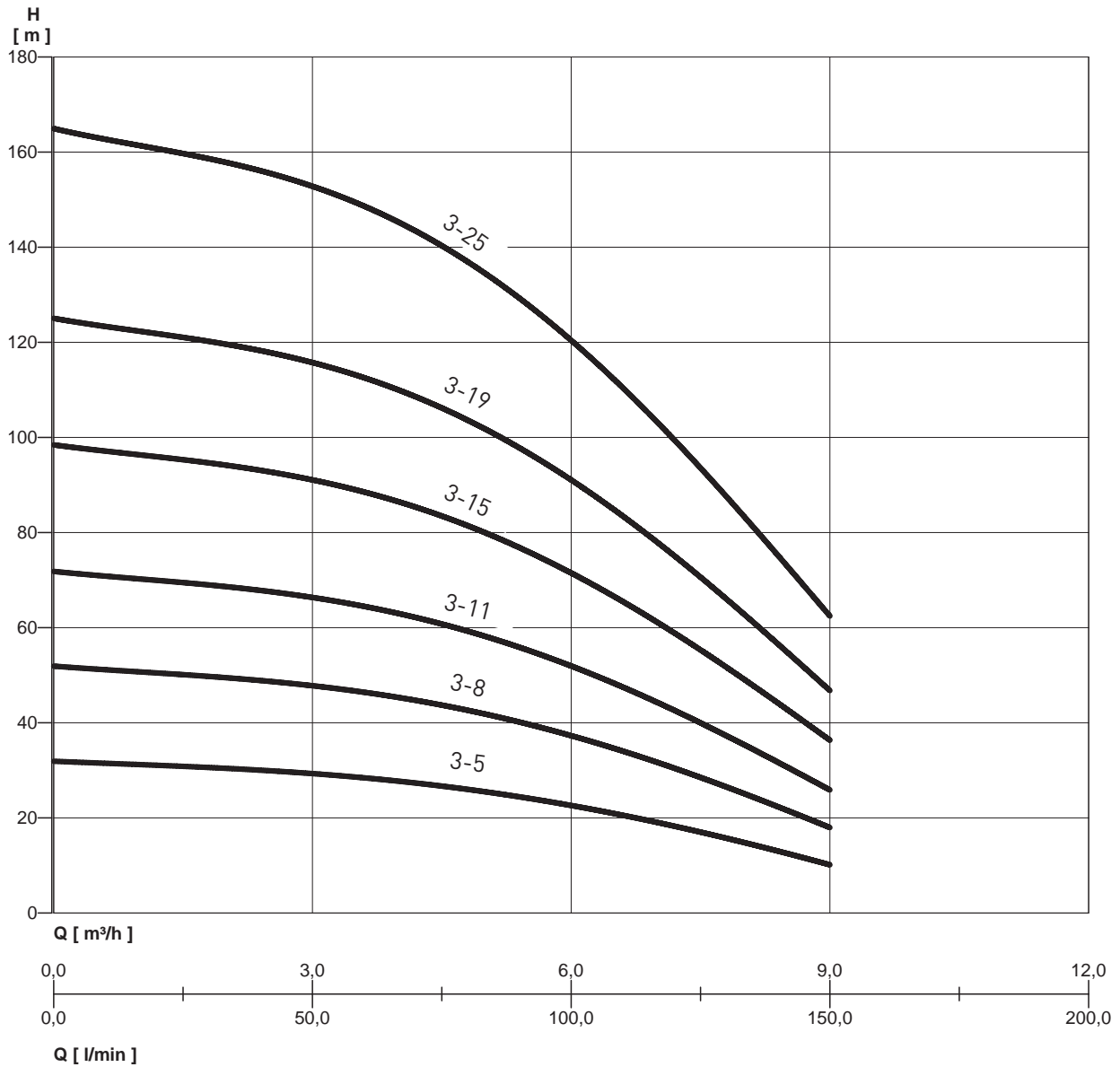
### OVERALL DIMENSIONS AND WEIGHTS

| MODEL                | Dimensions mm. |     |     |      |     |     |     |     | WEIGHT Kg |
|----------------------|----------------|-----|-----|------|-----|-----|-----|-----|-----------|
|                      | L1             | L2  | H1  | H2   | H3  | P1  | DNA | DNM |           |
| VARIO1-20 PVM 1-5 F  | 600            | 370 | 105 | 580  | 700 | 620 | 2"  | 2"  | 60        |
| VARIO1-20 PVM 1-8 F  | 600            | 370 | 105 | 594  | 700 | 620 | 2"  | 2"  | 62        |
| VARIO1-20 PVM 1-11 F | 600            | 370 | 105 | 648  | 700 | 620 | 2"  | 2"  | 67        |
| VARIO1-20 PVM 1-15 F | 600            | 370 | 105 | 766  | 700 | 620 | 2"  | 2"  | 73        |
| VARIO1-20 PVM 1-19 F | 600            | 370 | 105 | 838  | 700 | 620 | 2"  | 2"  | 80        |
| VARIO1-20 PVM 1-23 F | 600            | 370 | 105 | 910  | 700 | 620 | 2"  | 2"  | 90        |
| VARIO1-20 PVM 1-27 F | 600            | 370 | 105 | 1030 | 700 | 620 | 2"  | 2"  | 94        |

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### HYDRAULIC PERFORMANCE

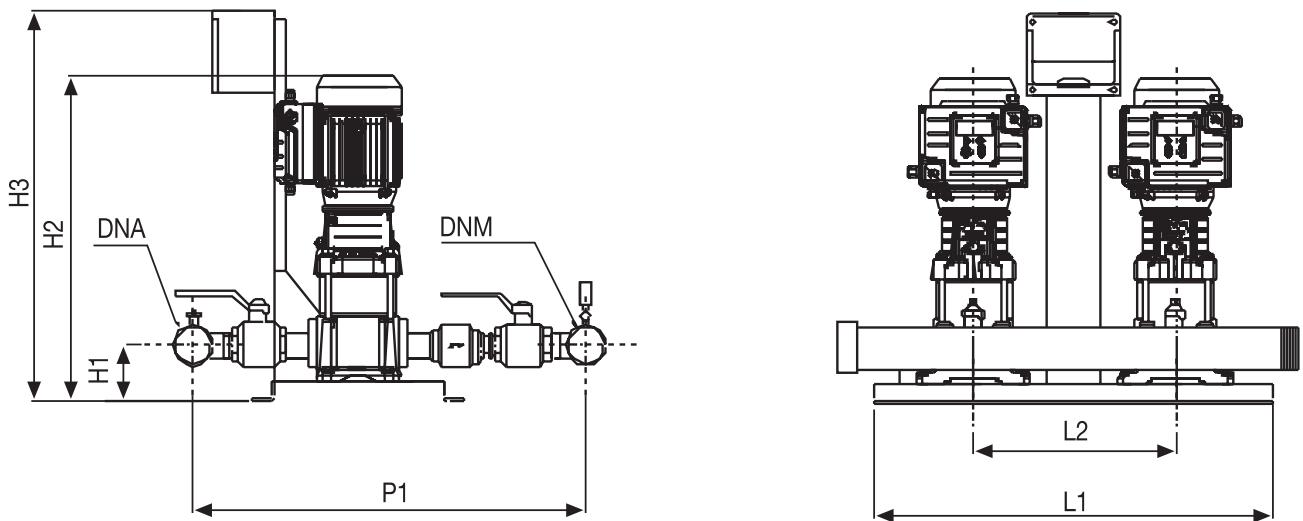


# NOCCHI VARIO 1-20 PVM

## PRESSURE BOOSTER SET WITH TWO VARIABLE SPEED PUMPS

### PERFORMANCE TABLE

| MODEL                | P2     | VOLT. (V) | In (A) | Q      | l/min             | 0     | 20    | 40    | 60    | 80    | 100  | 120  | 140  | 150 |
|----------------------|--------|-----------|--------|--------|-------------------|-------|-------|-------|-------|-------|------|------|------|-----|
|                      | kW     |           |        |        | m <sup>3</sup> /h | 0     | 1,2   | 2,4   | 3,6   | 4,8   | 6    | 7,2  | 8,4  | 9   |
| VARIO1-20 PVM 3-5 F  | 2x0,37 | 1 - 230   | 2x3    | m.c.w. | 31,9              | 31,1  | 30    | 28,3  | 26,2  | 22,6  | 18   | 13,3 | 10   |     |
| VARIO1-20 PVM 3-8 F  | 2x0,75 | 1 - 230   | 2x4,8  |        | 51,9              | 50,5  | 48,9  | 46,2  | 42,9  | 37,3  | 30,1 | 22,7 | 17,8 |     |
| VARIO1-20 PVM 3-11 F | 2x1,1  | 1 - 230   | 2x6,6  |        | 71,8              | 70    | 67,9  | 64,1  | 59,6  | 52,1  | 42,1 | 32,1 | 25,7 |     |
| VARIO1-20 PVM 3-15 F | 2x1,1  | 1 - 230   | 2x9    |        | 98,4              | 96    | 93,2  | 88    | 81,9  | 71,7  | 58,2 | 44,7 | 36,1 |     |
| VARIO1-20 PVM 3-19 F | 2x1,5  | 1 - 230   | 2x11   |        | 125               | 121,9 | 118,4 | 111,9 | 104,2 | 91,3  | 74,3 | 57,2 | 46,5 |     |
| VARIO1-20 PVM 3-25 F | 2x2,2  | 1 - 230   | 2x15   |        | 164,9             | 160,8 | 156,3 | 147,8 | 137,6 | 120,8 | 98,4 | 76   | 62,1 |     |



### OVERALL DIMENSIONS AND WEIGHTS

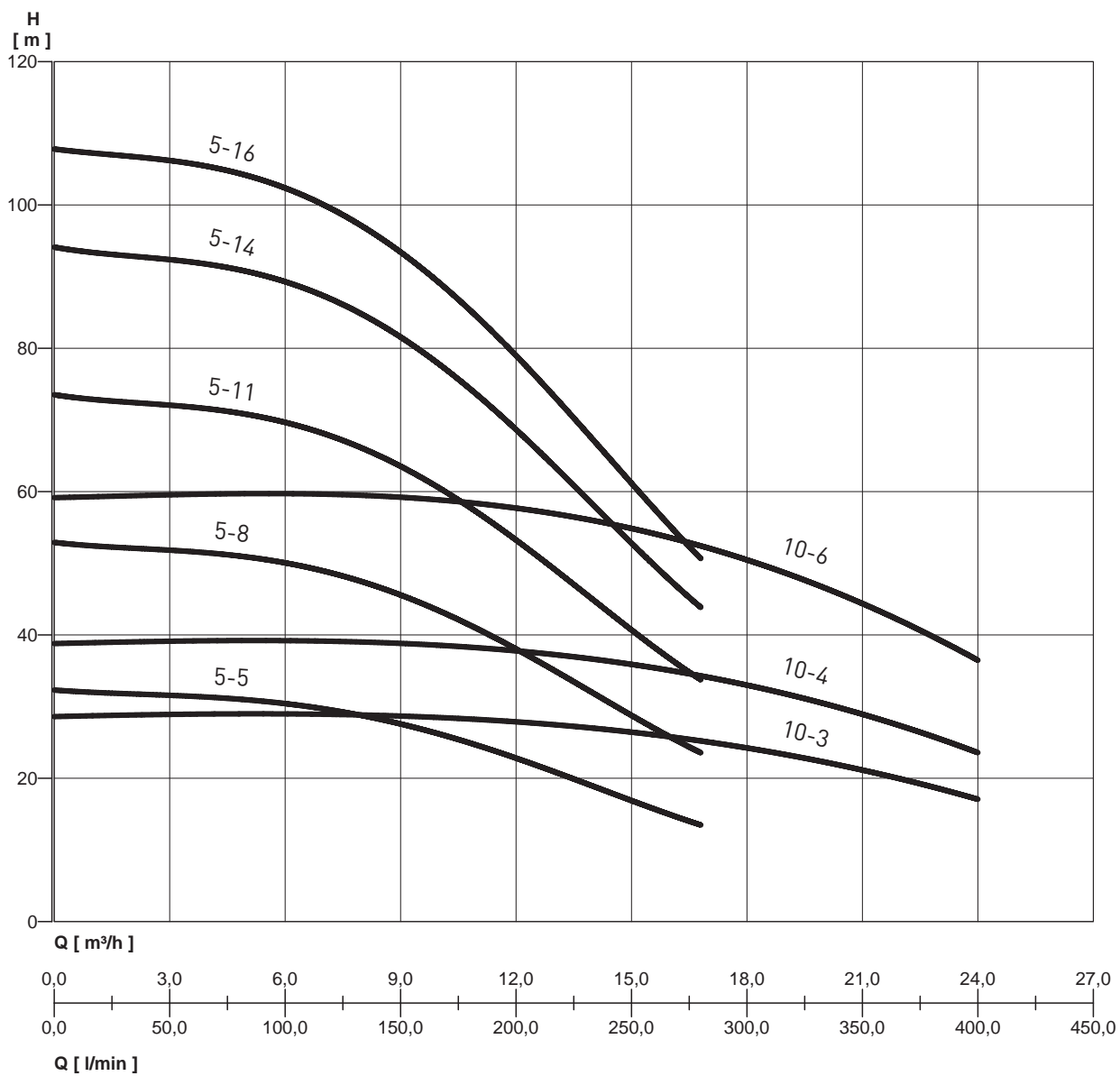
| MODEL                | Dimensions mm. |     |     |     |     |     |     |     | WEIGHT Kg |
|----------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----------|
|                      | L1             | L2  | H1  | H2  | H3  | P1  | DNA | DNM |           |
| VARIO1-20 PVM 3-5 F  | 600            | 370 | 105 | 540 | 700 | 620 | 2"  | 2"  | 62        |
| VARIO1-20 PVM 3-8 F  | 600            | 370 | 105 | 640 | 700 | 620 | 2"  | 2"  | 65        |
| VARIO1-20 PVM 3-11 F | 600            | 370 | 105 | 694 | 700 | 620 | 2"  | 2"  | 73        |
| VARIO1-20 PVM 3-15 F | 600            | 370 | 105 | 766 | 700 | 620 | 2"  | 2"  | 75        |
| VARIO1-20 PVM 3-19 F | 600            | 370 | 105 | 886 | 700 | 620 | 2"  | 2"  | 80        |
| VARIO1-20 PVM 3-25 F | 600            | 370 | 105 | 994 | 700 | 620 | 2"  | 2"  | 90        |



# NOCCHI VARIO 1-20 PVM

## PRESSURE BOOSTER SET WITH TWO VARIABLE SPEED PUMPS

### HYDRAULIC PERFORMANCE



# NOCCHI VARIO 1-20 PVM

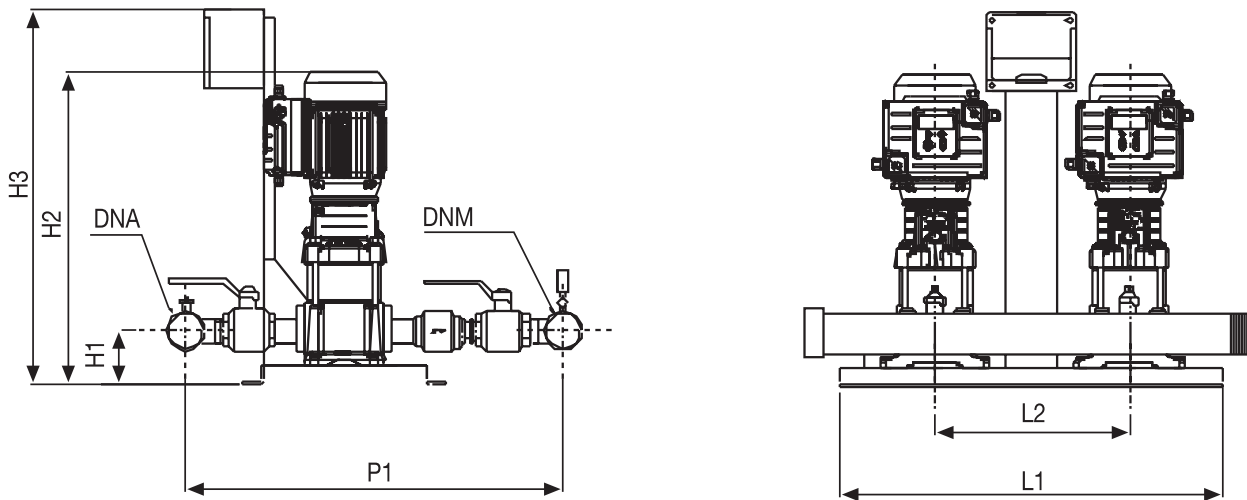
## PRESSURE BOOSTER SET WITH TWO VARIABLE SPEED PUMPS

### PERFORMANCE TABLE

| MODEL                | P2     | VOLT. (V) | In (A) | Q      | l/min | 0     | 80    | 120  | 160  | 200  | 240  | 280  |
|----------------------|--------|-----------|--------|--------|-------|-------|-------|------|------|------|------|------|
|                      | kW     |           |        |        |       | 0     | 4,8   | 7,2  | 9,6  | 12   | 14,4 | 16,8 |
| VARIO1-20 PVM 5-5 F  | 2x0,75 | 1 ~ 230   | 2x5,4  | m.c.w. |       | 32,3  | 31,1  | 29,4 | 26,8 | 22,9 | 18   | 13,5 |
| VARIO1-20 PVM 5-8 F  | 2x1,1  | 1 ~ 230   | 2x8,7  |        |       | 52,9  | 51,1  | 48,5 | 44,3 | 38,2 | 30,5 | 23,6 |
| VARIO1-20 PVM 5-11 F | 2x2,2  | 1 ~ 230   | 2x12   |        |       | 73,5  | 71,1  | 67,5 | 61,8 | 53,5 | 43   | 33,8 |
| VARIO1-20 PVM 5-14 F | 2x2,2  | 1 ~ 230   | 2x15,2 |        |       | 94,1  | 91,1  | 86,6 | 79,4 | 68,9 | 55,8 | 43,9 |
| VARIO1-20 PVM 5-16 F | 2x2,2  | 1 ~ 230   | 2x17,4 |        |       | 107,8 | 104,5 | 99,3 | 91   | 79,1 | 64,7 | 50,7 |

| MODEL                | P2    | VOLT. (V) | In (A) | Q      | l/min | 0    | 50   | 100  | 150  | 200  | 250  | 300  | 350  | 400  |
|----------------------|-------|-----------|--------|--------|-------|------|------|------|------|------|------|------|------|------|
|                      | kW    |           |        |        |       | 0    | 3    | 6    | 9    | 12   | 15   | 18   | 21   | 24   |
| VARIO1-20 PVM 10-3 F | 2x1,1 | 1 ~ 230   | 2x2,4  | m.c.w. |       | 28,6 | 28,9 | 29   | 28,7 | 27,8 | 26,4 | 24,4 | 21   | 17,1 |
| VARIO1-20 PVM 10-4 F | 2x1,5 | 1 ~ 230   | 2x3,2  |        |       | 38,8 | 39,1 | 39,2 | 38,9 | 37,7 | 35,8 | 33,2 | 28,8 | 23,6 |
| VARIO1-20 PVM 10-6 F | 2x2,2 | 1 ~ 230   | 2x4,8  |        |       | 59,2 | 59,4 | 59,8 | 59,4 | 57,5 | 54,7 | 50,8 | 44,2 | 36,5 |



### OVERALL DIMENSIONS AND WEIGHTS

| MODEL                | Dimensions mm. |     |     |     |     |     |        |        | WEIGHT Kg |
|----------------------|----------------|-----|-----|-----|-----|-----|--------|--------|-----------|
|                      | L1             | L2  | H1  | H2  | H3  | P1  | DNA    | DNM    |           |
| VARIO1-20 PVM 5-5 F  | 600            | 370 | 105 | 631 | 810 | 660 | 2"     | 2"     | 76        |
| VARIO1-20 PVM 5-8 F  | 600            | 370 | 105 | 712 | 810 | 660 | 2"     | 2"     | 80        |
| VARIO1-20 PVM 5-11 F | 600            | 370 | 105 | 841 | 810 | 660 | 2"     | 2"     | 92        |
| VARIO1-20 PVM 5-14 F | 600            | 370 | 105 | 922 | 810 | 660 | 2"     | 2"     | 98        |
| VARIO1-20 PVM 5-16 F | 600            | 370 | 105 | 976 | 810 | 660 | 2"     | 2"     | 100       |
| VARIO1-20 PVM 10-3 F | 620            | 370 | 100 | 612 | 820 | 700 | 2" 1/2 | 2" 1/2 | 100       |
| VARIO1-20 PVM 10-4 F | 620            | 370 | 100 | 714 | 820 | 700 | 2" 1/2 | 2" 1/2 | 110       |
| VARIO1-20 PVM 10-6 F | 620            | 370 | 100 | 714 | 820 | 700 | 2" 1/2 | 2" 1/2 | 120       |