

# New Generation **CHM** 50Hz

Light horizontal multistage centrifugal pump



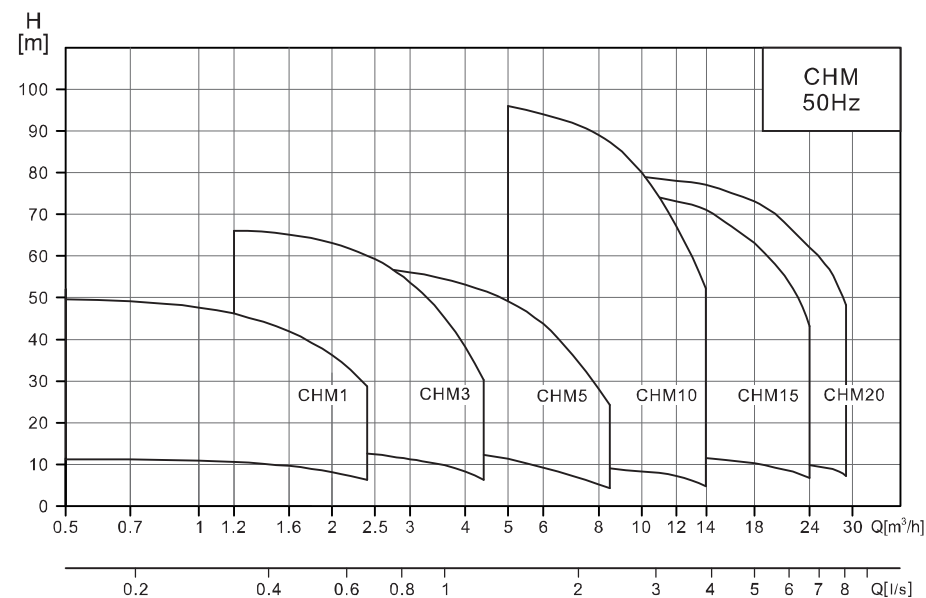
Stock code:300145

E210301  
subject to amendments



Pumping Water Pumping Honor

Performance range



Performance scope

| Description \ Model | CHM       |           |                     |           |           |           |
|---------------------|-----------|-----------|---------------------|-----------|-----------|-----------|
|                     | 1         | 3         | 5                   | 10        | 15        | 20        |
| Rated flow [m³/h]   |           |           |                     |           |           |           |
| Rated flow [l/s]    | 0.28      | 0.83      | 1.39                | 2.78      | 4.17      | 5.56      |
| Flow range [m³/h]   | 0.5~2.4   | 1.2~4.4   | 2.5~8.5             | 5~14      | 8~24      | 10~29     |
| Flow range [l/s]    | 0.14~0.67 | 0.33~1.22 | 0.69~2.36           | 1.39~3.89 | 2.22~6.67 | 2.78~8.06 |
| Max. pressure [bar] | 5         | 6.6       | 5.7                 | 9.6       | 7.6       | 7.9       |
| Power [kW]          | 0.37~0.55 | 0.37~1.1  | 0.37~1.1            | 0.75~4    | 1.1~4.8   | 1.1~7.5   |
| Temp. [°C]          | -15~+105  |           |                     |           |           |           |
| Max. efficiency [%] | 47        | 58        | 68                  | 70        | 72        | 72        |
| Pipelines           | G1        | G1        | Input G1¼/Output G1 | G1½       | G2        | G2        |

Summary

CHM is non-self-priming light horizontal multistage centrifugal pump. It has compact structure with extended shaft motor and the liquid is input in axis direction and output in radius direction. The flow passage adopts the process of stainless steel plate stamping and welding, which features the pump of energy efficiency, low noise, environmental protection, beautiful appearance, light weight, convenient installation and maintenance, and high reliability.

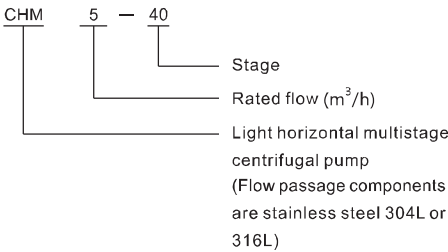
Motor

TEFC, 2-pole motor;  
Protection class: Ip55;  
Insulation class: F;  
Standard voltage: 50Hz 1×220v  
3×220V / 380V  
3×380V  
Max. power of single-phase motor is 2.2KW

Operating condition

This pump is applied for thin, clean, non-flammable, non-explosive, solid free, fiber free, physically and chemically water-like liquid.  
Liquid temperature:  
-15°C to 70°C for the normal temperature type  
-15°C to 105°C for the hot water type  
Ambient temp.: up to 40°C  
Max. working pressure: 10 bar  
The maximum inlet pressure are limited by the maximum working pressure.

Model definition



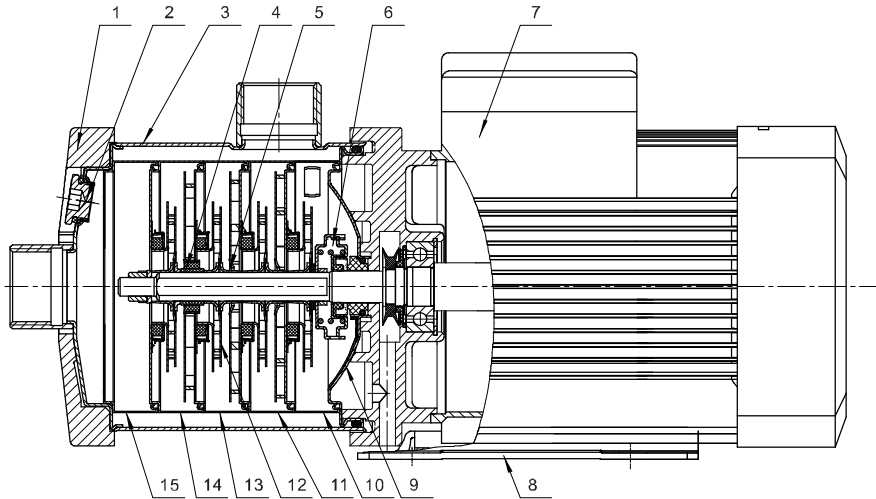
Application

CHM series pump is mainly used in industry:  
Air conditional system  
Cooling system  
Industrial cleaning  
Water treatment (Water purification)  
Aquaculture  
Fertilization/measuring system  
Environment application  
Other specific application

Curve conditions

The requirements applies to all the performance curves below:  
1. All curves are based on the measured value of the motor at a constant speed of 2900rpm.  
2. Curve tolerance in conformity to S9906:2012, grade 3B.  
3. Measurement is done with 20°C air-free water, kinematic viscosity of 1mm²/sec.  
4. The pump use should refer to the performance range of the bold curve to prevent overheating by too little flow or motor overload by excessive flow.

CHM1,3,5 Sectional drawing

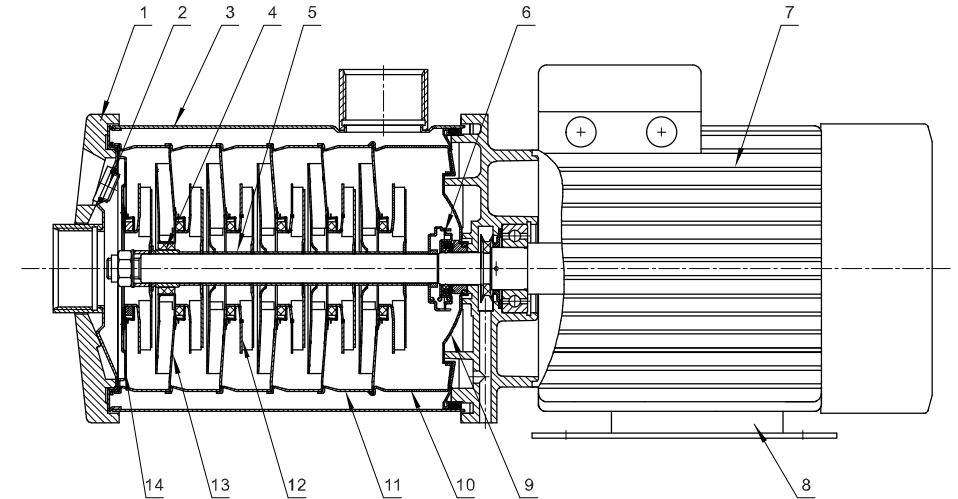


Material list

| No. | Name                     | Material                 | AISI/ASTM |
|-----|--------------------------|--------------------------|-----------|
| 1   | Clamp plate              | Die-casting aluminum     | ASTM383.1 |
| 2   | Plug                     | Stainless steel          | AISI304   |
| 3   | Inlet and outlet chamber | Stainless steel          | AISI304   |
| 4   | Bearing                  | Tungsten carbide         |           |
| 5   | Impeller sleeve          | Stainless steel          | AISI304   |
| 6   | Mechanical seals         | Graphite/Silicon carbide |           |
| 7   | Motor                    |                          |           |
| 8   | Base plate               | Steel plate              | AISI1015  |
| 9   | Back seat                | Stainless steel          | AISI304   |
| 10  | Top diffuser             | Stainless steel          | AISI304   |
| 11  | Diffuser                 | Stainless steel          | AISI304   |
| 12  | Impeller                 | Stainless steel          | AISI304   |
| 13  | Support diffuser         | Stainless steel          | AISI304   |
| 14  | Inducer                  | Stainless steel          | AISI304   |
| 15  | Inducer cover            | Stainless steel          | AISI304   |

Note: Other materials can be customized according to customer requirements.

CHM10,15,20 Sectional drawing

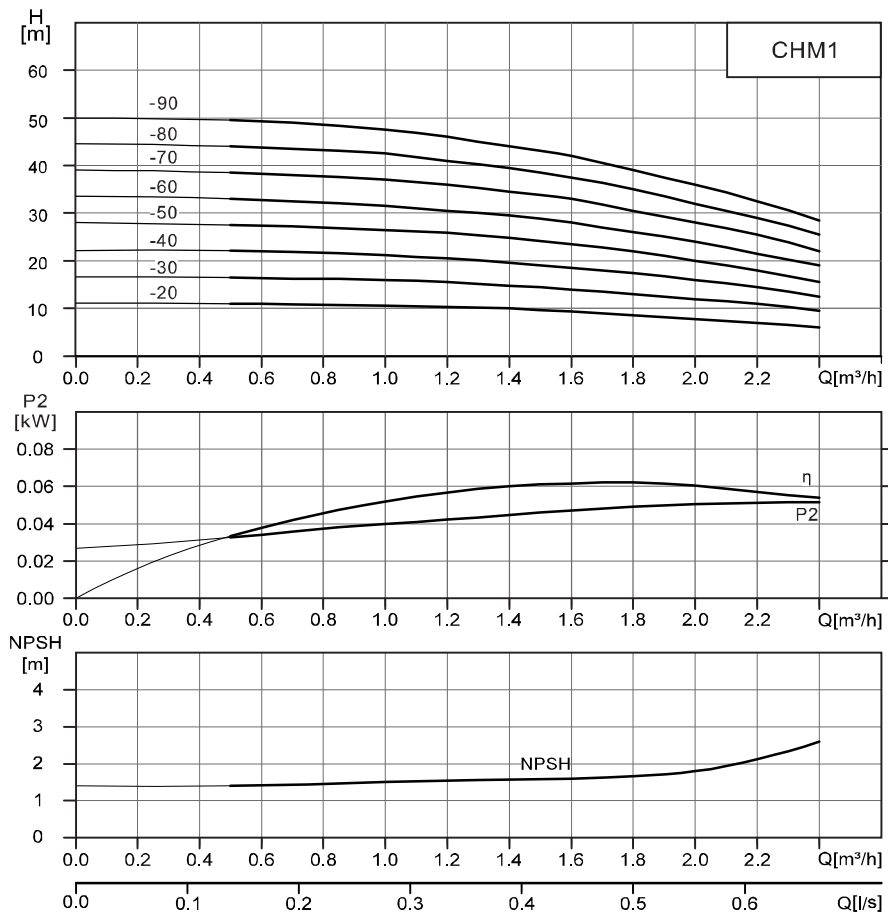


Material list

| No. | Name                     | Material                 | AISI/ASTM |
|-----|--------------------------|--------------------------|-----------|
| 1   | Clamp plate              | Die-casting aluminum     | ASTM383.1 |
| 2   | Plug                     | Stainless steel          | AISI304   |
| 3   | Inlet and outlet chamber | Stainless steel          | AISI304   |
| 4   | Bearing                  | Tungsten carbide         |           |
| 5   | Impeller sleeve          | Stainless steel          | AISI304   |
| 6   | Mechanical seals         | Graphite/Silicon carbide |           |
| 7   | Motor                    |                          |           |
| 8   | Base plate               | Steel plate              | AISI1015  |
| 9   | Back seat                | Stainless steel          | AISI304   |
| 10  | Discharge diffuser       | Stainless steel          | AISI304   |
| 11  | Diffuser                 | Stainless steel          | AISI304   |
| 12  | Impeller                 | Stainless steel          | AISI304   |
| 13  | Support diffuser         | Stainless steel          | AISI304   |
| 14  | Inducer                  | Stainless steel          | AISI304   |

Note: Other materials can be customized according to customer requirements.

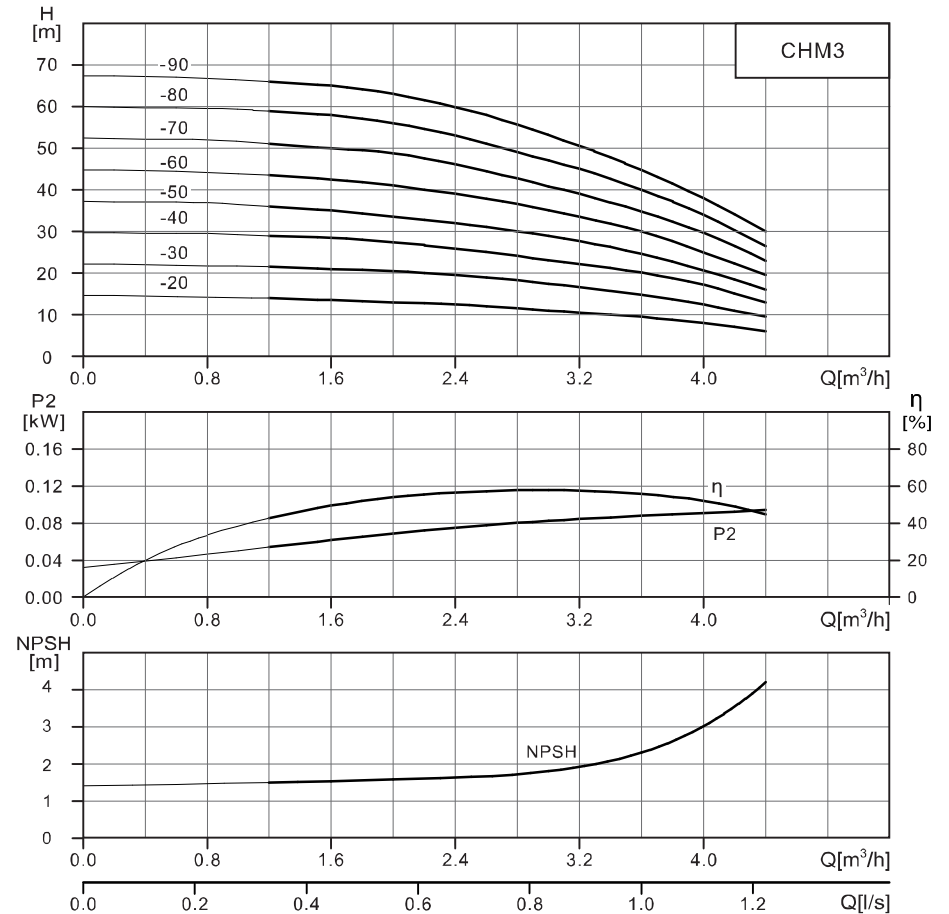
CHM1 Performance curves



CHM1 Performance table

| Model | Motor(kW) | Q(m³/h) | 0    | 0.5  | 0.7  | 1    | 1.2  | 1.4  | 1.6  | 1.8  | 2  | 2.2  | 2.4  |
|-------|-----------|---------|------|------|------|------|------|------|------|------|----|------|------|
| 1-20  | 0.37      | H(m)    | 11.1 | 11   | 10.9 | 10.6 | 10.3 | 10   | 9.5  | 8.7  | 8  | 7    | 6    |
| 1-30  | 0.37      |         | 16.6 | 16.5 | 16.4 | 16   | 15.5 | 14.8 | 14   | 13   | 12 | 11   | 9.5  |
| 1-40  | 0.37      |         | 22.2 | 22   | 21.9 | 21.2 | 20.5 | 19.6 | 18.5 | 17.5 | 16 | 14.5 | 12.5 |
| 1-50  | 0.37      |         | 28   | 27.5 | 27.2 | 26.5 | 25.5 | 24.5 | 23.5 | 22   | 20 | 18   | 15.5 |
| 1-60  | 0.37      |         | 33.5 | 33   | 32.5 | 31.5 | 30.5 | 29.5 | 28   | 26   | 24 | 21.5 | 19   |
| 1-70  | 0.37      |         | 39   | 38.5 | 38   | 37   | 36   | 34.5 | 33   | 30.5 | 28 | 25.5 | 22   |
| 1-80  | 0.55      |         | 44.5 | 44   | 43.5 | 42.5 | 41   | 39.5 | 37.5 | 35   | 32 | 29   | 25.5 |
| 1-90  | 0.55      |         | 50   | 49.5 | 49   | 47.5 | 46   | 44   | 42   | 39   | 36 | 32.5 | 28.5 |

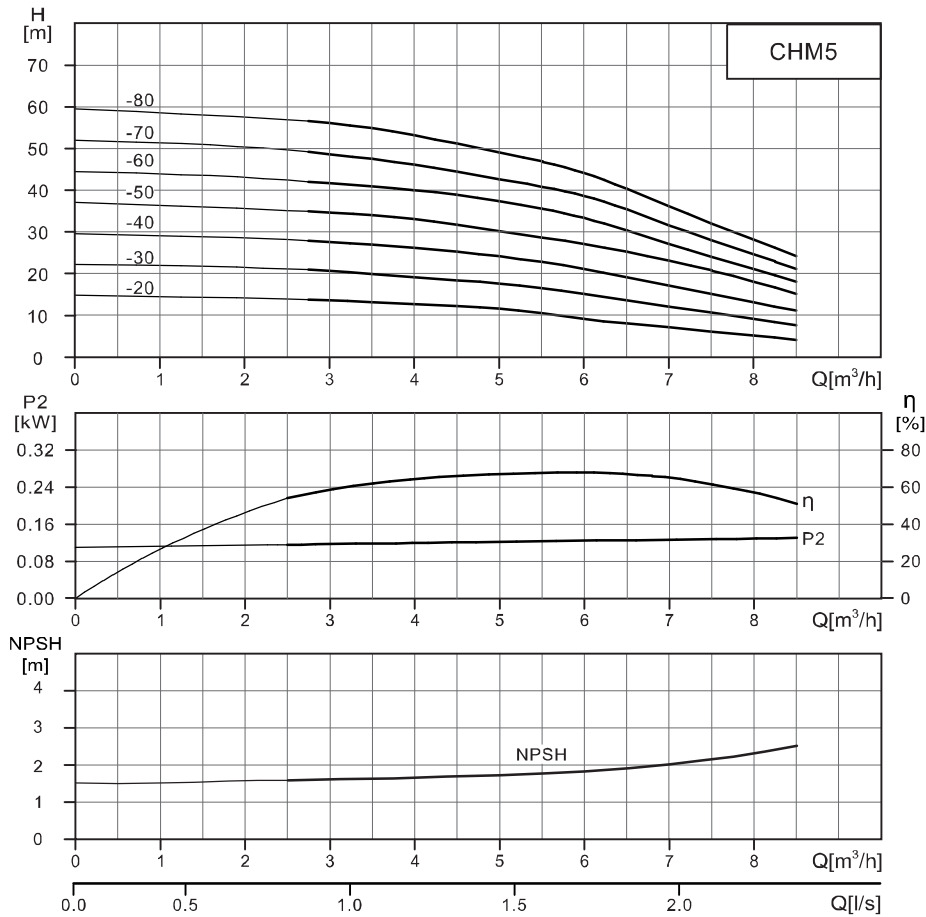
CHM3 Performance curves



CHM3 Performance table

| Model | Motor(kW) | Q(m³/h) | 0    | 1.2  | 1.6  | 2    | 2.4  | 2.8  | 3  | 3.2  | 3.6 | 4    | 4.4  |
|-------|-----------|---------|------|------|------|------|------|------|----|------|-----|------|------|
| 3-20  | 0.37      | H(m)    | 14.7 | 14   | 13.5 | 13   | 12.5 | 11.5 | 11 | 10.5 | 9.5 | 8    | 6    |
| 3-30  | 0.37      |         | 22.2 | 21.5 | 21   | 20.5 | 19.5 | 18   | 17 | 16.5 | 15  | 12.5 | 9.5  |
| 3-40  | 0.37      |         | 29.7 | 29   | 28.5 | 27.5 | 26   | 24   | 23 | 22   | 20  | 17   | 13   |
| 3-50  | 0.55      |         | 37.2 | 36   | 35   | 33.5 | 32   | 30   | 29 | 28   | 25  | 21   | 16   |
| 3-60  | 0.55      |         | 45   | 43.5 | 42.5 | 41   | 39   | 36.5 | 35 | 33.5 | 30  | 25   | 19.5 |
| 3-70  | 0.75      |         | 52.5 | 51   | 50   | 49   | 46   | 43   | 41 | 39.5 | 35  | 30   | 23   |
| 3-80  | 0.75      |         | 60   | 58.5 | 58   | 56   | 53   | 49   | 47 | 45   | 40  | 34   | 26.5 |
| 3-90  | 1.1       |         | 67.5 | 66   | 65   | 63   | 60   | 56   | 53 | 51   | 45  | 38   | 30   |

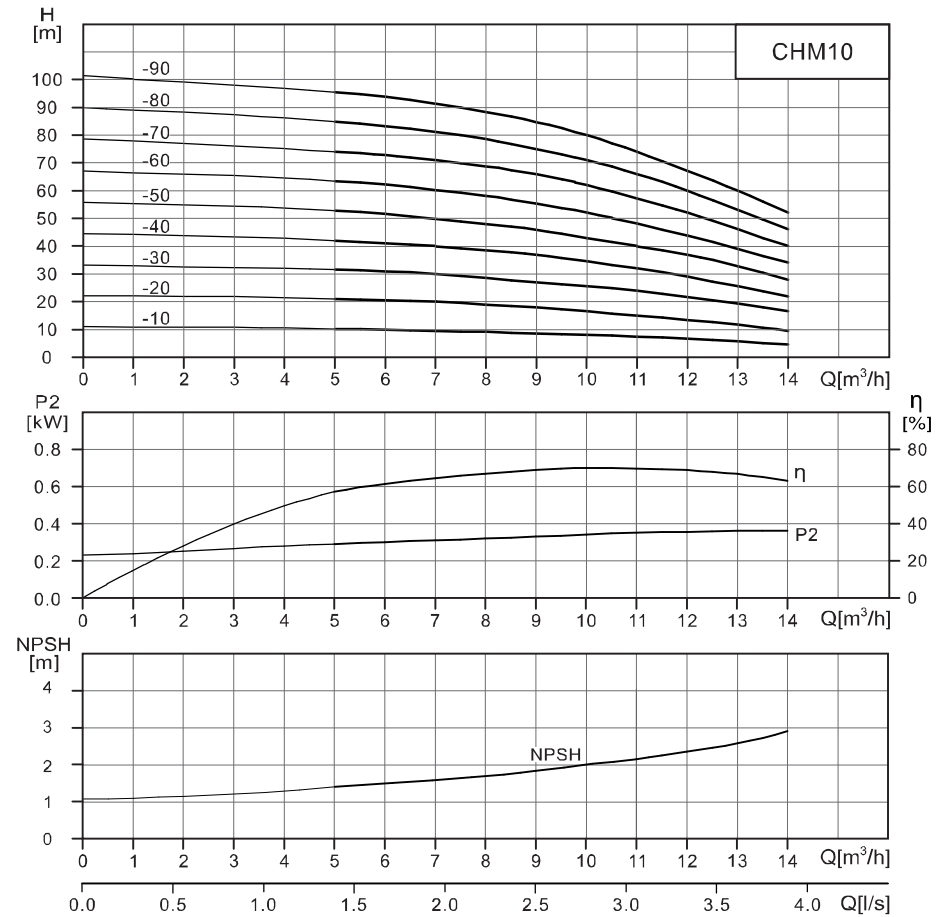
CHM5 Performance curves



CHM5 Performance table

| Model | Motor(kW) | Q(m³/h) | 0    | 2.5  | 3    | 4    | 5    | 6    | 7    | 8    | 8.5 |
|-------|-----------|---------|------|------|------|------|------|------|------|------|-----|
| 5-20  | 0.37      | H(m)    | 14.7 | 13.5 | 13.3 | 12.5 | 11.5 | 9    | 7    | 5    | 4   |
| 5-30  | 0.55      |         | 22.1 | 21   | 20.5 | 19   | 17.5 | 15   | 12   | 9    | 7.5 |
| 5-40  | 0.55      |         | 29.5 | 28   | 27.5 | 26   | 24   | 21   | 17   | 13   | 11  |
| 5-50  | 0.75      |         | 37   | 35   | 34.5 | 33   | 30   | 27   | 23   | 18   | 15  |
| 5-60  | 1.1       |         | 44.5 | 42   | 41.5 | 40   | 37   | 33   | 27   | 21   | 18  |
| 5-70  | 1.1       |         | 52   | 49.5 | 48.5 | 46   | 42.5 | 38.5 | 31.5 | 24.5 | 21  |
| 5-80  | 1.1       |         | 59   | 57   | 56   | 53   | 49   | 44   | 36   | 28   | 24  |

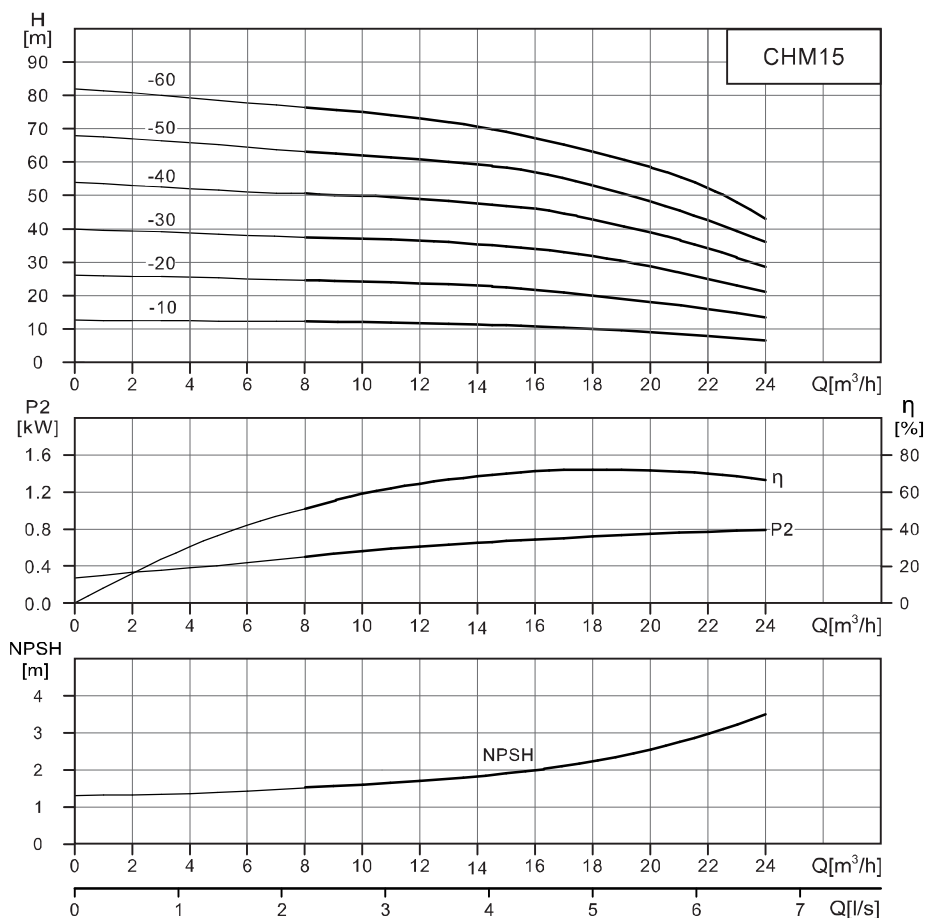
CHM10 Performance curves



CHM10 Performance table

| Model | Motor(kW) | Q(m³/h) | 0     | 5    | 6    | 8    | 10   | 12   | 14   |
|-------|-----------|---------|-------|------|------|------|------|------|------|
| 10-10 | 0.75      | H(m)    | 11    | 10.2 | 10   | 9    | 8    | 7    | 4.5  |
| 10-20 | 0.75      |         | 22.2  | 21   | 20.5 | 19   | 16.5 | 13.5 | 9.5  |
| 10-30 | 1.1       |         | 33.3  | 31.5 | 31   | 28.5 | 25.5 | 22   | 16.5 |
| 10-40 | 1.5       |         | 44.5  | 42   | 41   | 38   | 34   | 29   | 22   |
| 10-50 | 2.2       |         | 56    | 52.5 | 51   | 48   | 43   | 37   | 28   |
| 10-60 | 2.2       |         | 67    | 63   | 62   | 58   | 52   | 44   | 34   |
| 10-70 | 3         |         | 78.5  | 74   | 73   | 69   | 62   | 52   | 40   |
| 10-80 | 3         |         | 90    | 85   | 84   | 79   | 71   | 60   | 46   |
| 10-90 | 4         |         | 101.5 | 96   | 94   | 89   | 80   | 67   | 52   |

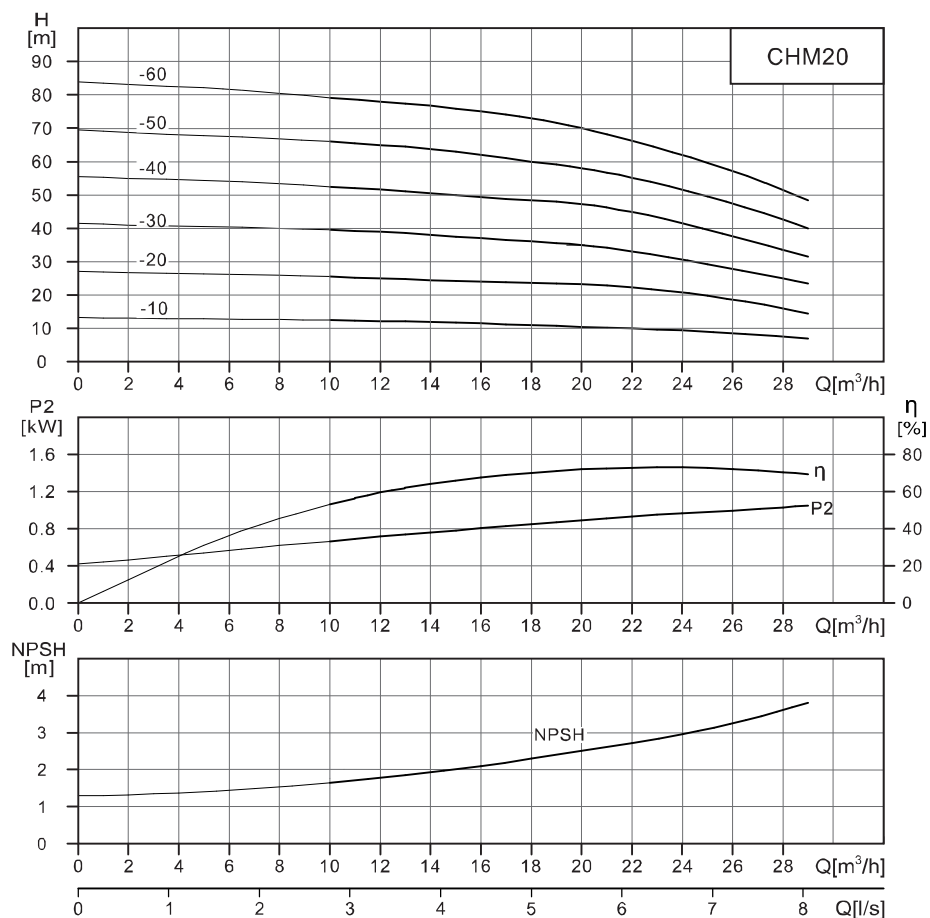
### CHM15 Performance curves



### CHM15 Performance table

| Model | Motor(kW) | Q(m³/h) | 0    | 8    | 10 | 12   | 14   | 15   | 16   | 18 | 20 | 22   | 24   |
|-------|-----------|---------|------|------|----|------|------|------|------|----|----|------|------|
| 15-10 | 1.1       | H(m)    | 12.6 | 12.2 | 12 | 11.8 | 11.5 | 11   | 10.5 | 10 | 9  | 8    | 6.5  |
| 15-20 | 2.2       |         | 26   | 24.5 | 24 | 23.5 | 23   | 22.5 | 21.5 | 20 | 18 | 16   | 13.5 |
| 15-30 | 3         |         | 40   | 37.5 | 37 | 36.5 | 35.5 | 34.5 | 34   | 32 | 29 | 25   | 21   |
| 15-40 | 4         |         | 54   | 50.5 | 50 | 49   | 47.5 | 47   | 46   | 43 | 39 | 34   | 28.5 |
| 15-50 | 4         |         | 68   | 63   | 62 | 61   | 59   | 58   | 57   | 53 | 48 | 42.5 | 36   |
| 15-60 | 4.8       |         | 82   | 76   | 75 | 73   | 71   | 69   | 67   | 63 | 58 | 52   | 43   |

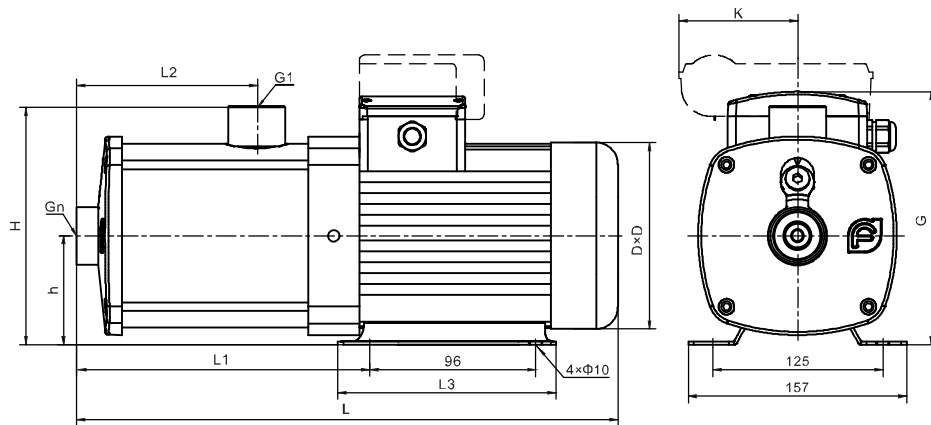
### CHM20 Performance curves



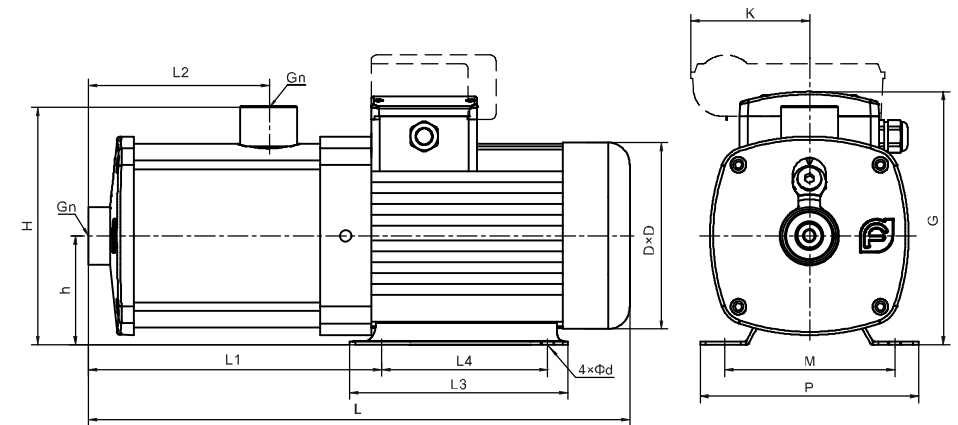
### CHM20 Performance table

| Model | Motor(kW) | Q(m³/h) | 0    | 10   | 12   | 14   | 16   | 18   | 20   | 22 | 24   | 26 | 28 | 29   |
|-------|-----------|---------|------|------|------|------|------|------|------|----|------|----|----|------|
| 20-10 | 1.1       | H(m)    | 13.3 | 12.5 | 12.3 | 12   | 11.5 | 11   | 10.5 | 10 | 9.5  | 9  | 8  | 7    |
| 20-20 | 2.2       |         | 27.2 | 25.5 | 25   | 24.5 | 24   | 23.7 | 23   | 22 | 20.5 | 18 | 16 | 14.5 |
| 20-30 | 4         |         | 41.5 | 39.5 | 39   | 38   | 37   | 36   | 35   | 33 | 31   | 28 | 25 | 23.5 |
| 20-40 | 4.8       |         | 55.5 | 52.5 | 51   | 50   | 49   | 48.5 | 47   | 45 | 41.5 | 37 | 33 | 31.5 |
| 20-50 | 5.5       |         | 69.5 | 66   | 65   | 64   | 62   | 60   | 58   | 55 | 51   | 47 | 42 | 40   |
| 20-60 | 7.5       |         | 84   | 79   | 78   | 77   | 75   | 73   | 70   | 66 | 62   | 58 | 52 | 48   |

## CHM1,3,5 Installation sketch



## CHM10,15,20 Installation sketch



## CHM1,3,5 Dimensions and weight

| Motor                              | Model | Dimensions(mm) |     |     |     |    |     |         |         |    |     | Weight<br>(kg) |
|------------------------------------|-------|----------------|-----|-----|-----|----|-----|---------|---------|----|-----|----------------|
|                                    |       | L              | L1  | L2  | L3  | h  | H   | G       | D       | n  | K   |                |
| Three<br>phase/<br>Single<br>phase | 1-20  | 328            | 137 | 78  | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 9              |
|                                    | 1-30  | 328            | 137 | 78  | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 9              |
|                                    | 1-40  | 348            | 157 | 98  | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 9              |
|                                    | 1-50  | 368            | 177 | 118 | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 10             |
|                                    | 1-60  | 388            | 197 | 138 | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 10             |
|                                    | 1-70  | 408            | 217 | 158 | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 11             |
|                                    | 1-80  | 428            | 237 | 178 | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 12             |
| Three<br>phase/<br>Single<br>phase | 1-90  | 448            | 257 | 198 | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 12             |
|                                    | 3-20  | 328            | 137 | 78  | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 9              |
|                                    | 3-30  | 328            | 137 | 78  | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 9              |
|                                    | 3-40  | 348            | 157 | 98  | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 9              |
|                                    | 3-50  | 368            | 177 | 118 | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 11             |
|                                    | 3-60  | 388            | 197 | 138 | 150 | 75 | 165 | 178/212 | 141     | 1  | /62 | 11             |
|                                    | 3-70  | 429/431        | 217 | 158 | 160 | 85 | 175 | 178/212 | 151/161 | 1  | /91 | 14             |
| Three<br>phase/<br>Single<br>phase | 3-80  | 449/451        | 237 | 178 | 160 | 85 | 175 | 178/212 | 151/161 | 1  | /91 | 15             |
|                                    | 3-90  | 469/491        | 257 | 198 | 160 | 85 | 175 | 178/212 | 151/161 | 1  | /91 | 16             |
|                                    | 5-20  | 322            | 131 | 72  | 150 | 75 | 165 | 178/212 | 141     | 1¼ | /62 | 9              |
|                                    | 5-30  | 376            | 185 | 126 | 150 | 75 | 165 | 178/212 | 141     | 1¼ | /62 | 10             |
|                                    | 5-40  | 376            | 185 | 126 | 150 | 75 | 165 | 178/212 | 141     | 1¼ | /62 | 11             |
|                                    | 5-50  | 424/426        | 212 | 153 | 160 | 85 | 175 | 178/230 | 151/161 | 1¼ | /91 | 14             |
|                                    | 5-60  | 451/473        | 239 | 180 | 160 | 85 | 175 | 178/230 | 151/161 | 1¼ | /91 | 15             |
| Three<br>phase/<br>Single<br>phase | 5-70  | 478/500        | 266 | 207 | 160 | 85 | 175 | 178/230 | 151/161 | 1¼ | /91 | 16             |
|                                    | 5-80  | 505/527        | 293 | 234 | 160 | 85 | 175 | 178/230 | 151/161 | 1¼ | /91 | 16             |