

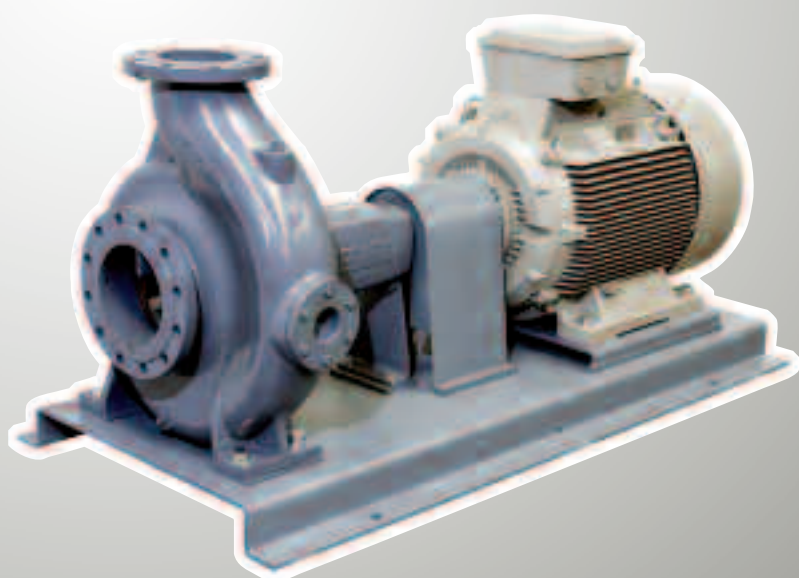


FHA

END SUCTION VOLUTE ELECTRIC PUMPS

ISO 2858 (EX DIN 24256) PN 16

50 Hz





FHA

END SUCTION VOLUTE PUMPS ISO 2858 (EX DIN 24256)

in cast iron



End suction volute pump in cast iron.

APPLICATIONS

- Water supply
- Fire-Fighting systems
- Hot and cold water supply
- Industrial use
- Swimming pool
- Sprinkling
- Air conditioning systems

TECHNICAL DETAILS

- Easy removal and maintenance, BPO (Back Pull Out) system allows all rotating elements to be removed without disconnecting suction and discharge pipework
- Top centerline discharge, foot support under casing for maximum resistance to misalignment and distortion from pipe loads
- Non-overload design to ensure stable performance for all applications

TECHNICAL DATA

- Type of liquid: clean water, light chemical treatment
- Maximum working pressure: 16 bar
- Temperature of the liquid:
 - from 0°C to +80°C (standard)
 - from -20°C to +120°C (high temperature version)
- DIN PN16 suction and discharge connection
- Various supplier for motors
- Self-ventilated 2 and 4 pole asynchronous motor
- Class of insulation F (B for high temperatures)
- IP 55 protection rating
- 220÷240/380÷415V ± 5% (up to 4 kW included), 50Hz three-phase voltage, 380÷415/660÷720V ±5% (5.5 kW and over), 50Hz three-phase voltage

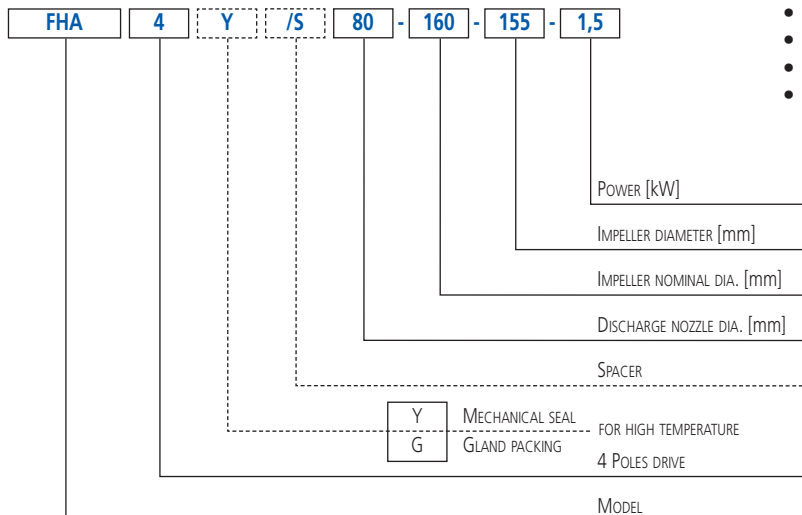
MATERIALS

- Casing in cast iron
- Impeller in bronze
- Shaft in AISI 403
- Mechanical seal in Ceramic/Carbon/NBR

ON REQUEST

- Priming funnel; valve; companion flange; gasket
- Flange: JIS 16K or ANSI 250
- Casing in ductile cast iron (GJS400)
- Impeller in cast iron or in ductile cast iron (GJS400)
- Shaft in AISI 304 or in AISI 316 stainless steel
- Diesel motor

IDENTIFICATION CODE





FHA

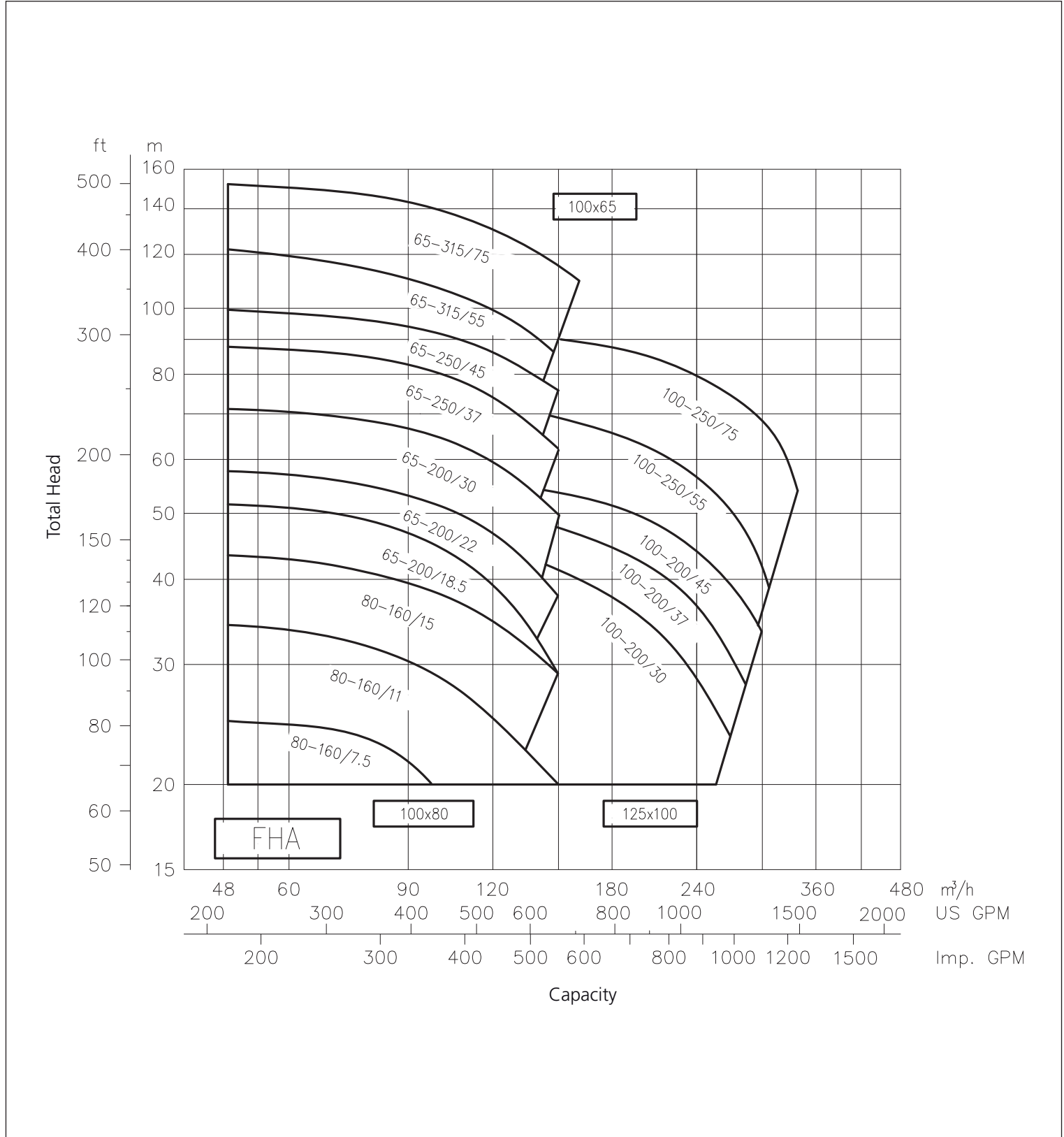
END SUCTION VOLUTE PUMPS ISO 2858 (EX DIN 24256)

in cast iron

2 Poles

FHA PERFORMANCE CHART

at 3000 min⁻¹ (according to ISO 9906 Attachment A)





FHA

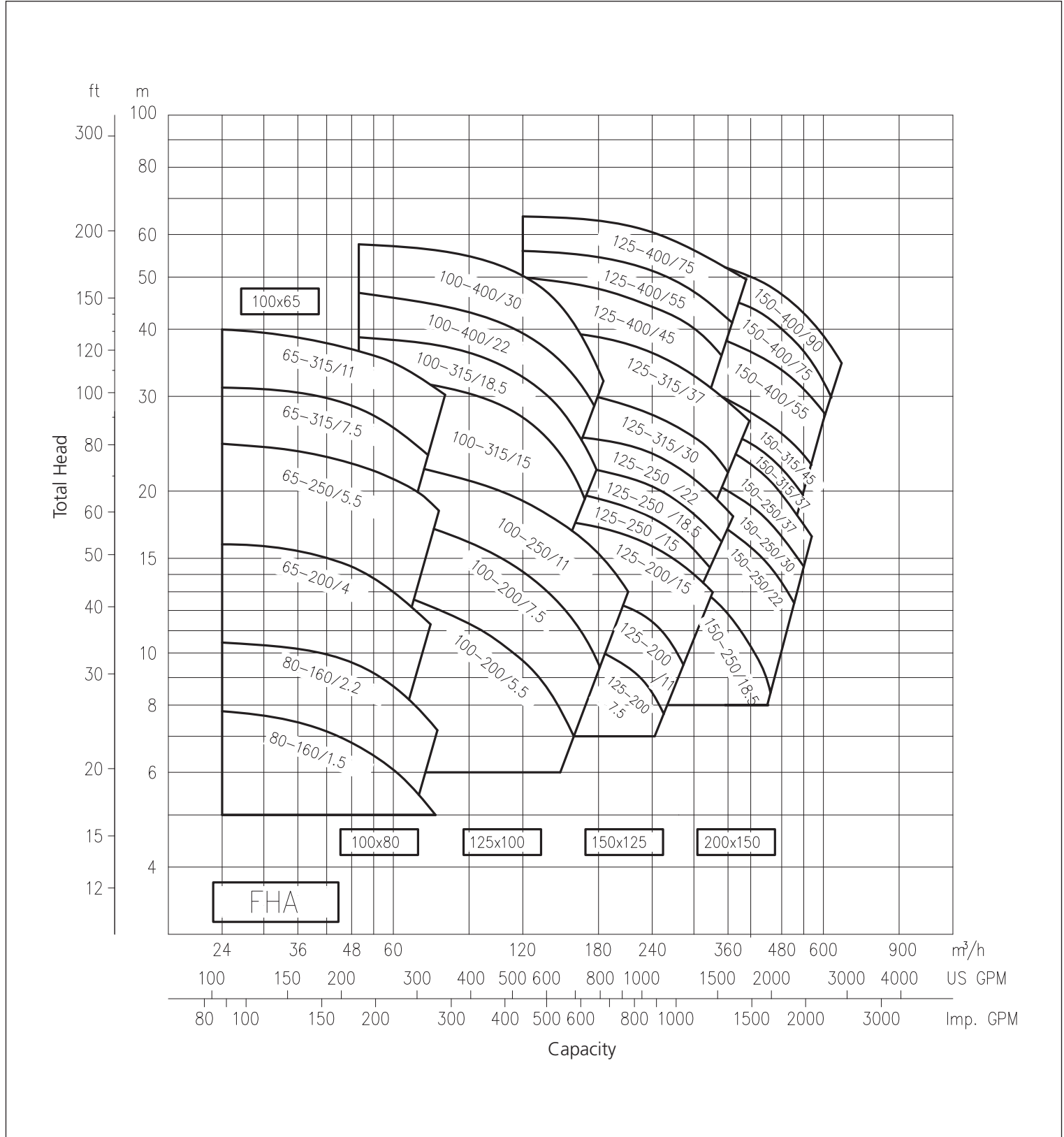
END SUCTION VOLUTE PUMPS ISO 2858 (EX DIN 24256)

in cast iron

4 Poles

FHA PERFORMANCE CHART

at 1500 min⁻¹ (according to ISO 9906 Attachment A)



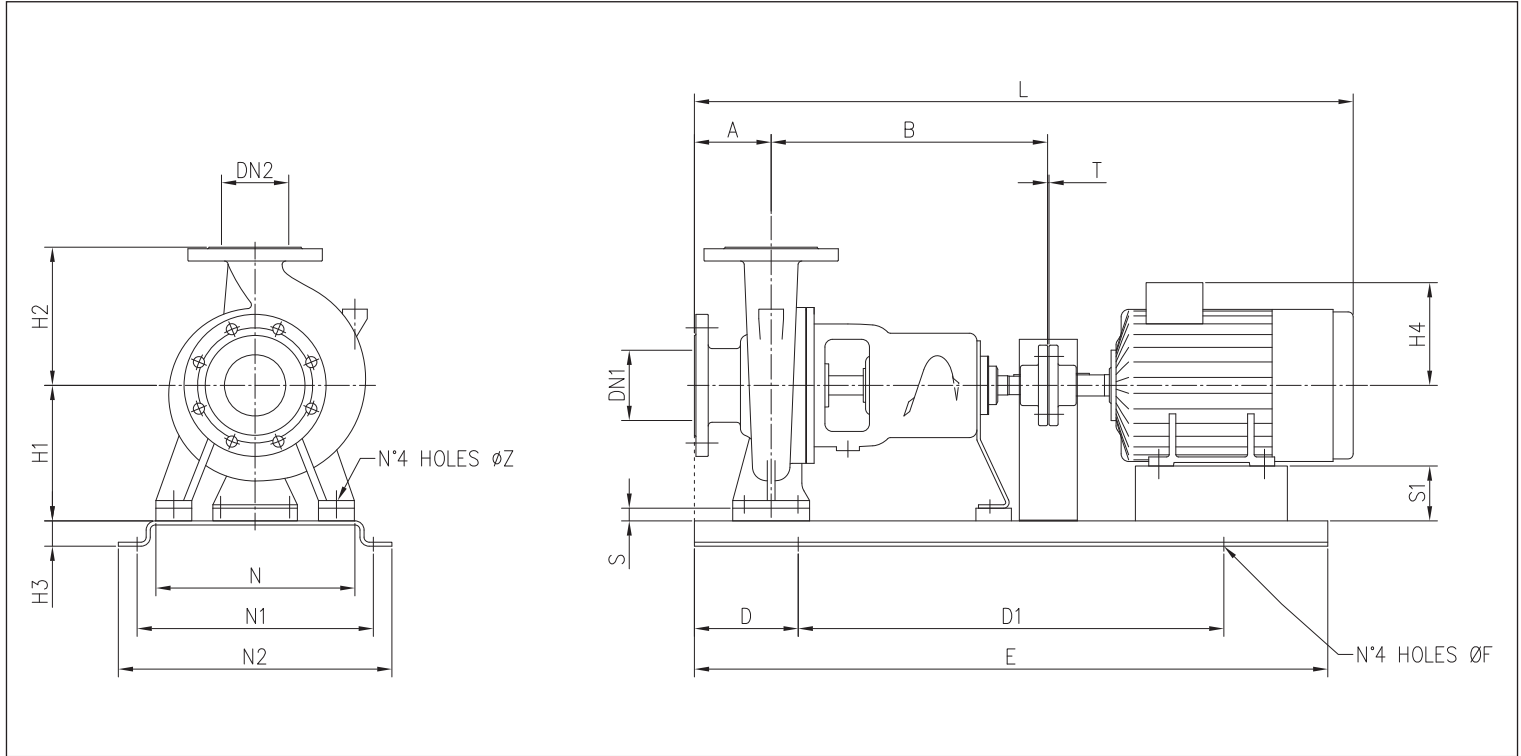


FHA

END SUCTION VOLUTE PUMPS ISO 2858 (EX DIN 24256)

in cast iron

DIMENSIONS - Pump + motor





FHA

END SUCTION VOLUTE PUMPS ISO 2858 (EX DIN 24256)

in cast iron

DIMENSIONS TABLE

| Model | Motor | | Size | DN1 | DN2 | A | B | D | D1 | E | ØF | Dimensions [mm] | | | | | | | | Weight [kg] | | | |
|--------------|---------|---------|------|-----|-----|-----|-----|-----|------|------|----|-----------------|-----|-----|-----|------|-----|-----|-----|-------------|-----|----|--------|
| | 4 Poles | 2 Poles | | | | | | | | | | H1 | H2 | H3 | H4 | L | N | N1 | N2 | | S | S1 | T |
| FHA4 80-160 | 1,5 | - | 090L | 100 | 80 | 100 | 500 | 190 | 740 | 1120 | 22 | 160 | 200 | 50 | 138 | 920 | 280 | 550 | 610 | - | 70 | 3 | 133,0 |
| FHA4 80-160 | 2,2 | - | 100L | 100 | 80 | 100 | 500 | 190 | 740 | 1120 | 22 | 160 | 200 | 50 | 145 | 969 | 280 | 550 | 610 | - | 60 | 3 | 139,0 |
| FHA2 80-160 | - | 7,5 | 132S | 100 | 80 | 100 | 500 | 190 | 740 | 1120 | 22 | 160 | 200 | 50 | 195 | 1045 | 280 | 550 | 610 | - | 28 | 3 | 165,0 |
| FHA2 80-160 | - | 11 | 160M | 100 | 80 | 100 | 500 | 190 | 740 | 1120 | 22 | 160 | 200 | 50 | 238 | 1213 | 280 | 550 | 610 | - | - | 3 | 201,0 |
| FHA2 80-160 | - | 15 | 160M | 100 | 80 | 100 | 500 | 190 | 740 | 1120 | 22 | 160 | 200 | 50 | 238 | 1213 | 280 | 550 | 610 | - | - | 3 | 217,0 |
| FHA4 65-200 | 2,2 | - | 100L | 100 | 65 | 100 | 500 | 190 | 740 | 1120 | 22 | 180 | 225 | 50 | 145 | 969 | 320 | 550 | 610 | - | 80 | 3 | 157,0 |
| FHA4 65-200 | 4 | - | 112M | 100 | 65 | 100 | 500 | 190 | 740 | 1120 | 22 | 180 | 225 | 50 | 161 | 991 | 320 | 550 | 610 | - | 68 | 3 | 165,0 |
| FHA2 65-200 | - | 15 | 160M | 100 | 65 | 100 | 500 | 190 | 740 | 1120 | 22 | 180 | 225 | 50 | 238 | 1213 | 320 | 550 | 610 | - | 20 | 3 | 243,0 |
| FHA2 65-200 | - | 18,5 | 160L | 100 | 65 | 100 | 500 | 190 | 740 | 1120 | 22 | 180 | 225 | 50 | 238 | 1257 | 320 | 550 | 610 | - | 20 | 3 | 244,0 |
| FHA2 65-200 | - | 22 | 180M | 100 | 65 | 100 | 500 | 190 | 740 | 1120 | 22 | 180 | 225 | 50 | 270 | 1273 | 320 | 550 | 610 | - | - | 3 | 304,0 |
| FHA2 65-200 | - | 30 | 200L | 100 | 65 | 100 | 500 | 230 | 940 | 1400 | 26 | 200 | 225 | 75 | 310 | 1374 | 320 | 550 | 610 | 20 | - | 4 | 396,0 |
| FHA4 65-250 | 4 | - | 112M | 100 | 65 | 125 | 500 | 190 | 740 | 1120 | 22 | 200 | 250 | 50 | 161 | 1016 | 360 | 550 | 610 | - | 88 | 3 | 177,0 |
| FHA4 65-250 | 5,5 | - | 132S | 100 | 65 | 125 | 500 | 190 | 740 | 1120 | 22 | 200 | 250 | 50 | 195 | 1070 | 360 | 550 | 610 | - | 68 | 3 | 202,0 |
| FHA2 65-250 | - | 30 | 200L | 100 | 65 | 125 | 500 | 230 | 940 | 1400 | 26 | 200 | 250 | 75 | 310 | 1399 | 360 | 550 | 610 | - | - | 4 | 406,0 |
| FHA2 65-250 | - | 37 | 200L | 100 | 65 | 125 | 500 | 230 | 940 | 1400 | 26 | 200 | 250 | 75 | 310 | 1399 | 360 | 550 | 610 | - | - | 4 | 424,0 |
| FHA2 65-250 | - | 45 | 225M | 100 | 65 | 125 | 500 | 230 | 940 | 1400 | 26 | 225 | 250 | 75 | 335 | 1429 | 360 | 550 | 610 | 25 | - | 4 | 486,0 |
| FHA4 65-315 | 5,5 | - | 132S | 100 | 65 | 125 | 530 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 195 | 1100 | 400 | 550 | 610 | - | 93 | 3 | 256,0 |
| FHA4 65-315 | 7,5 | - | 132M | 100 | 65 | 125 | 530 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 195 | 1140 | 400 | 550 | 610 | - | 93 | 3 | 266,0 |
| FHA4 65-315 | 11 | - | 160M | 100 | 65 | 125 | 530 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 238 | 1268 | 400 | 550 | 610 | - | 65 | 3 | 312,0 |
| FHA2 65-315 | - | 45 | 225M | 100 | 65 | 125 | 530 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 335 | 1459 | 400 | 550 | 610 | - | - | 4 | 508,0 |
| FHA2 65-315 | - | 55 | 250M | 100 | 65 | 125 | 530 | 230 | 940 | 1400 | 26 | 250 | 280 | 75 | 370 | 1569 | 400 | 670 | 730 | 25 | - | 4 | 597,0 |
| FHA2 65-315 | - | 75 | 280S | 100 | 65 | 125 | 530 | 300 | 1200 | 1800 | 26 | 280 | 280 | 100 | 380 | 1619 | 400 | 670 | 730 | 55 | - | 4 | 760,0 |
| FHA4 100-200 | 5,5 | - | 132S | 125 | 100 | 125 | 500 | 190 | 740 | 1120 | 22 | 200 | 280 | 50 | 195 | 1070 | 360 | 550 | 610 | - | 68 | 3 | 196,0 |
| FHA4 100-200 | 7,5 | - | 132M | 125 | 100 | 125 | 500 | 190 | 740 | 1120 | 22 | 200 | 280 | 50 | 195 | 1110 | 360 | 550 | 610 | - | 68 | 3 | 206,0 |
| FHA2 100-200 | - | 30 | 200L | 125 | 100 | 125 | 500 | 230 | 940 | 1400 | 26 | 200 | 280 | 75 | 310 | 1399 | 360 | 550 | 610 | - | - | 4 | 400,0 |
| FHA2 100-200 | - | 37 | 200L | 125 | 100 | 125 | 500 | 230 | 940 | 1400 | 26 | 200 | 280 | 75 | 310 | 1399 | 360 | 550 | 610 | - | - | 4 | 418,0 |
| FHA2 100-200 | - | 45 | 225M | 125 | 100 | 125 | 500 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 335 | 1429 | 360 | 550 | 610 | 25 | - | 4 | 480,0 |
| FHA2 100-200 | - | 55 | 250M | 125 | 100 | 125 | 500 | 230 | 940 | 1400 | 26 | 250 | 280 | 75 | 370 | 1539 | 360 | 670 | 730 | 50 | - | 4 | 569,0 |
| FHA4 100-250 | 5,5 | - | 132S | 125 | 100 | 140 | 530 | 190 | 740 | 1120 | 22 | 225 | 280 | 50 | 195 | 1115 | 400 | 550 | 610 | - | 93 | 3 | 252,0 |
| FHA4 100-250 | 7,5 | - | 132M | 125 | 100 | 140 | 530 | 190 | 740 | 1120 | 22 | 225 | 280 | 50 | 195 | 1155 | 400 | 550 | 610 | - | 93 | 3 | 262,0 |
| FHA4 100-250 | 11 | - | 160M | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 238 | 1283 | 400 | 550 | 610 | - | 65 | 3 | 339,0 |
| FHA2 100-250 | - | 45 | 225M | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 335 | 1474 | 400 | 550 | 610 | - | - | 4 | 535,0 |
| FHA2 100-250 | - | 55 | 250M | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 250 | 280 | 75 | 370 | 1584 | 400 | 670 | 730 | 25 | - | 4 | 624,0 |
| FHA2 100-250 | - | 75 | 280S | 125 | 100 | 140 | 530 | 300 | 1200 | 1800 | 26 | 280 | 280 | 100 | 380 | 1634 | 400 | 670 | 730 | 55 | - | 4 | 787,0 |
| FHA4 100-315 | 15 | - | 160L | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 250 | 315 | 75 | 238 | 1327 | 400 | 550 | 610 | - | 90 | 3 | 372,0 |
| FHA4 100-315 | 18,5 | - | 180M | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 250 | 315 | 75 | 270 | 1343 | 400 | 550 | 610 | - | 70 | 3 | 433,0 |
| FHA4 100-400 | 22 | - | 180L | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 280 | 355 | 75 | 270 | 1383 | 500 | 670 | 730 | - | 100 | 3 | 518,0 |
| FHA4 100-400 | 30 | - | 200L | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 280 | 355 | 75 | 310 | 1444 | 500 | 670 | 730 | - | 80 | 4 | 590,0 |
| FHA4 125-200 | 7,5 | - | 132M | 150 | 125 | 140 | 500 | 190 | 740 | 1120 | 22 | 250 | 315 | 50 | 195 | 1125 | 400 | 550 | 610 | - | 118 | 3 | 279,0 |
| FHA4 125-200 | 11 | - | 160M | 150 | 125 | 140 | 500 | 230 | 940 | 1400 | 26 | 250 | 315 | 75 | 238 | 1253 | 400 | 550 | 610 | - | 90 | 3 | 356,0 |
| FHA4 125-200 | 15 | - | 160L | 150 | 125 | 140 | 500 | 230 | 940 | 1400 | 26 | 250 | 315 | 75 | 238 | 1297 | 400 | 550 | 610 | - | 90 | 3 | 362,0 |
| FHA4 125-250 | 15 | - | 160L | 150 | 125 | 140 | 530 | 230 | 940 | 1400 | 26 | 250 | 355 | 75 | 238 | 1327 | 400 | 550 | 610 | - | 90 | 3 | 373,0 |
| FHA4 125-250 | 18,5 | - | 180M | 150 | 125 | 140 | 530 | 230 | 940 | 1400 | 26 | 250 | 355 | 75 | 270 | 1343 | 400 | 550 | 610 | - | 70 | 3 | 434,0 |
| FHA4 125-250 | 22 | - | 180L | 150 | 125 | 140 | 530 | 230 | 940 | 1400 | 26 | 250 | 355 | 75 | 270 | 1383 | 400 | 550 | 610 | - | 70 | 3 | 452,0 |
| FHA4 125-315 | 22 | - | 180L | 150 | 125 | 140 | 530 | 230 | 940 | 1400 | 26 | 280 | 355 | 75 | 270 | 1383 | 500 | 670 | 730 | - | 100 | 3 | 523,0 |
| FHA4 125-315 | 30 | - | 200L | 150 | 125 | 140 | 530 | 230 | 940 | 1400 | 26 | 280 | 355 | 75 | 310 | 1444 | 500 | 670 | 730 | - | 80 | 4 | 597,0 |
| FHA4 125-315 | 37 | - | 225S | 150 | 125 | 140 | 530 | 230 | 940 | 1400 | 26 | 280 | 355 | 75 | 335 | 1479 | 500 | 670 | 730 | - | 55 | 4 | 634,0 |
| FHA4 125-400 | 45 | - | 225M | 150 | 125 | 140 | 530 | 230 | 940 | 1400 | 26 | 315 | 400 | 75 | 335 | 1504 | 500 | 670 | 730 | - | 90 | 4 | 716,0 |
| FHA4 125-400 | 55 | - | 250M | 150 | 125 | 140 | 530 | 300 | 1200 | 1800 | 26 | 315 | 400 | 100 | 370 | 1584 | 500 | 780 | 850 | - | 65 | 4 | 821,0 |
| FHA4 125-400 | 75 | - | 280S | 150 | 125 | 140 | 530 | 300 | 1200 | 1800 | 26 | 315 | 400 | 100 | 380 | 1634 | 500 | 780 | 850 | - | 35 | 4 | 982,0 |
| FHA4 150-250 | 18,5 | - | 180M | 200 | 150 | 160 | 530 | 230 | 940 | 1400 | 26 | 280 | 375 | 75 | 270 | 1363 | 500 | 670 | 730 | - | 100 | 3 | 520,0 |
| FHA4 150-250 | 22 | - | 180L | 200 | 150 | 160 | 530 | 230 | 940 | 1400 | 26 | 280 | 375 | 75 | 270 | 1403 | 500 | 670 | 730 | - | 100 | 3 | 538,0 |
| FHA4 150-250 | 30 | - | 200L | 200 | 150 | 160 | 530 | 230 | 940 | 1400 | 26 | 280 | 375 | 75 | 310 | 1464 | 500 | 670 | 730 | - | 80 | 4 | 614,0 |
| FHA4 150-250 | 37 | - | 225S | 200 | 150 | 160 | 530 | 230 | 940 | 1400 | 26 | 280 | 375 | 75 | 335 | 1499 | 500 | 670 | 730 | - | 55 | 4 | 651,0 |
| FHA4 150-315 | 37 | - | 225S | 200 | 150 | 160 | 670 | 300 | 1200 | 1800 | 26 | 315 | 400 | 100 | 335 | 1639 | 550 | 670 | 730 | - | 90 | 4 | 738,0 |
| FHA4 150-315 | 45 | - | 225M | 200 | 150 | 160 | 670 | 300 | 1200 | 1800 | 26 | 315 | 400 | 100 | 335 | 1664 | 550 | 670 | 730 | - | 90 | 4 | 771,0 |
| FHA4 150-315 | 55 | - | 250M | 200 | 150 | 160 | 670 | 300 | 1200 | 1800 | 26 | 315 | 400 | 100 | 370 | 1744 | 550 | 780 | 850 | - | 65 | 4 | 843,0 |
| FHA4 150-400 | 45 | - | 225M | 200 | 150 | 160 | 670 | 300 | 1200 | 1800 | 26 | 315 | 450 | 100 | 335 | 1664 | 550 | 670 | 730 | - | 90 | 4 | 820,0 |
| FHA4 150-400 | 55 | - | 250M | 200 | 150 | 160 | 670 | 300 | 1200 | 1800 | 26 | 315 | 450 | 100 | 370 | 1744 | 550 | 780 | 850 | - | 65 | 4 | 890,0 |
| FHA4 150-400 | 75 | - | 280S | 200 | 150 | 160 | 670 | 300 | 1200 | 1800 | 26 | 315 | 450 | 100 | 380 | 1794 | 550 | 780 | 850 | - | 35 | 4 | 1051,0 |
| FHA4 | | | | | | | | | | | | | | | | | | | | | | | |

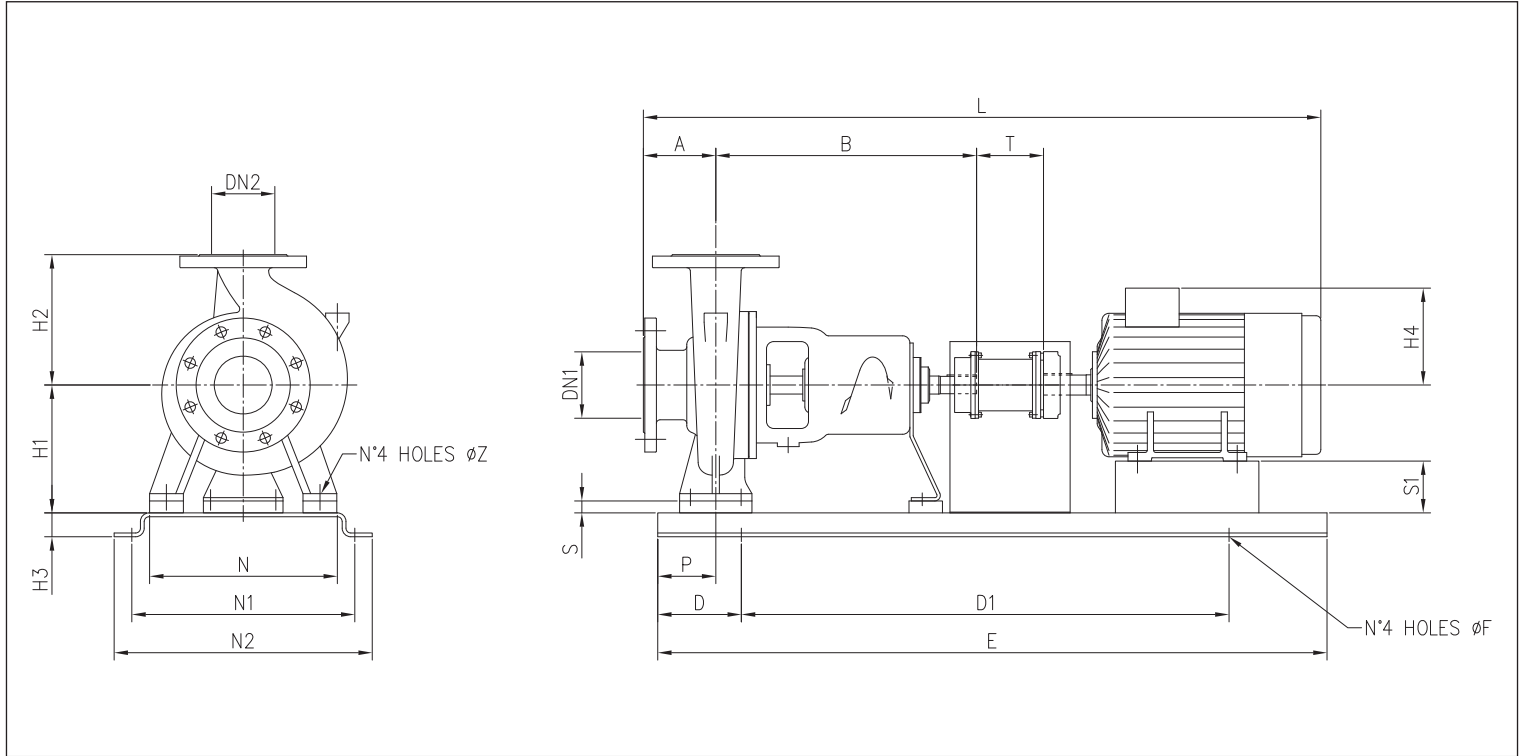


FHA

END SUCTION VOLUTE PUMPS ISO 2858 (EX DIN 24256)

in cast iron

DIMENSIONS - Pump + motor with spacer





FHA

END SUCTION VOLUTE PUMPS ISO 2858 (EX DIN 24256)

in cast iron

DIMENSIONS TABLE

| Model | Motor | | Size | Dimensions [mm] | | | | | | | | | | | | | | | | | | | Weight [kg] | |
|----------------|---------|---------|------|-----------------|-----|-----|-----|-----|------|------|----|-----|-----|-----|-----|------|-----|-----|-----|----|-----|-----|-------------|-------|
| | 4 Poles | 2 Poles | | DN1 | DN2 | A | B | D | D1 | E | ØF | H1 | H2 | H3 | H4 | L | N | N1 | N2 | S | S1 | T | | P |
| FHA4/S 80-160 | 1,5 | - | 090L | 100 | 80 | 100 | 500 | 190 | 740 | 1120 | 22 | 160 | 200 | 50 | 138 | 1057 | 280 | 550 | 610 | - | 70 | 140 | 100 | 135,0 |
| FHA4/S 80-160 | 2,2 | - | 100L | 100 | 80 | 100 | 500 | 190 | 740 | 1120 | 22 | 160 | 200 | 50 | 145 | 1106 | 280 | 550 | 610 | - | 60 | 140 | 100 | 141,0 |
| FHA2/S 80-160 | - | 7,5 | 132S | 100 | 80 | 100 | 500 | 230 | 940 | 1400 | 26 | 160 | 200 | 75 | 195 | 1182 | 280 | 550 | 610 | - | 28 | 140 | 100 | 198,0 |
| FHA2/S 80-160 | - | 11 | 160M | 100 | 80 | 100 | 500 | 230 | 940 | 1400 | 26 | 160 | 200 | 75 | 238 | 1350 | 280 | 550 | 610 | - | - | 140 | 100 | 234,0 |
| FHA2/S 80-160 | - | 15 | 160M | 100 | 80 | 100 | 500 | 230 | 940 | 1400 | 26 | 160 | 200 | 75 | 238 | 1350 | 280 | 550 | 610 | - | - | 140 | 100 | 250,0 |
| FHA4/S 65-200 | 2,2 | - | 100L | 100 | 65 | 100 | 500 | 190 | 740 | 1120 | 22 | 180 | 225 | 50 | 145 | 1106 | 320 | 550 | 610 | - | 80 | 140 | 100 | 158,0 |
| FHA4/S 65-200 | 4 | - | 112M | 100 | 65 | 100 | 500 | 190 | 740 | 1120 | 22 | 180 | 225 | 50 | 161 | 1128 | 320 | 550 | 610 | - | 68 | 140 | 100 | 166,0 |
| FHA2/S 65-200 | - | 15 | 160M | 100 | 65 | 100 | 500 | 230 | 940 | 1400 | 26 | 180 | 225 | 75 | 238 | 1350 | 320 | 550 | 610 | - | 20 | 140 | 100 | 276,0 |
| FHA2/S 65-200 | - | 18,5 | 160L | 100 | 65 | 100 | 500 | 230 | 940 | 1400 | 26 | 180 | 225 | 75 | 238 | 1394 | 320 | 550 | 610 | - | 20 | 140 | 100 | 277,0 |
| FHA2/S 65-200 | - | 22 | 180M | 100 | 65 | 100 | 500 | 230 | 940 | 1400 | 26 | 180 | 225 | 75 | 270 | 1410 | 320 | 550 | 610 | - | - | 140 | 100 | 337,0 |
| FHA2/S 65-200 | - | 30 | 200L | 100 | 65 | 100 | 500 | 230 | 940 | 1400 | 26 | 200 | 225 | 75 | 310 | 1510 | 320 | 550 | 610 | 20 | - | 140 | 100 | 399,0 |
| FHA4/S 65-250 | 4 | - | 112M | 100 | 65 | 125 | 500 | 190 | 740 | 1120 | 22 | 200 | 250 | 50 | 161 | 1153 | 360 | 550 | 610 | - | 88 | 140 | 125 | 178,0 |
| FHA4/S 65-250 | 5,5 | - | 132S | 100 | 65 | 125 | 500 | 230 | 940 | 1400 | 26 | 200 | 250 | 75 | 195 | 1207 | 360 | 550 | 610 | - | 68 | 140 | 125 | 235,0 |
| FHA2/S 65-250 | - | 30 | 200L | 100 | 65 | 125 | 500 | 230 | 940 | 1400 | 26 | 200 | 250 | 75 | 310 | 1535 | 360 | 550 | 610 | - | - | 140 | 125 | 409,0 |
| FHA2/S 65-250 | - | 37 | 200L | 100 | 65 | 125 | 500 | 230 | 940 | 1400 | 26 | 200 | 250 | 75 | 310 | 1535 | 360 | 550 | 610 | - | - | 140 | 125 | 427,0 |
| FHA2/S 65-250 | - | 45 | 225M | 100 | 65 | 125 | 500 | 230 | 940 | 1400 | 26 | 225 | 250 | 75 | 335 | 1565 | 360 | 550 | 610 | 25 | - | 140 | 125 | 489,0 |
| FHA4/S 65-315 | 5,5 | - | 132S | 100 | 65 | 125 | 530 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 195 | 1237 | 400 | 550 | 610 | - | 93 | 140 | 125 | 258,0 |
| FHA4/S 65-315 | 7,5 | - | 132M | 100 | 65 | 125 | 530 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 195 | 1277 | 400 | 550 | 610 | - | 93 | 140 | 125 | 268,0 |
| FHA4/S 65-315 | 11 | - | 160M | 100 | 65 | 125 | 530 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 238 | 1405 | 400 | 550 | 610 | - | 65 | 140 | 125 | 314,0 |
| FHA2/S 65-315 | - | 45 | 225M | 100 | 65 | 125 | 530 | 300 | 1200 | 1800 | 26 | 225 | 280 | 100 | 335 | 1595 | 400 | 670 | 730 | - | - | 140 | 125 | 557,0 |
| FHA2/S 65-315 | - | 55 | 250M | 100 | 65 | 125 | 530 | 300 | 1200 | 1800 | 26 | 250 | 280 | 100 | 370 | 1705 | 400 | 670 | 730 | 25 | - | 140 | 120 | 635,0 |
| FHA2/S 65-315 | - | 75 | 280S | 100 | 65 | 125 | 530 | 300 | 1200 | 1800 | 26 | 280 | 280 | 100 | 380 | 1755 | 400 | 670 | 730 | 55 | - | 140 | 185 | 766,0 |
| FHA4/S 100-200 | 5,5 | - | 132S | 125 | 100 | 125 | 500 | 230 | 940 | 1400 | 26 | 200 | 280 | 75 | 195 | 1207 | 360 | 550 | 610 | - | 68 | 140 | 125 | 229,0 |
| FHA4/S 100-200 | 7,5 | - | 132M | 125 | 100 | 125 | 500 | 230 | 940 | 1400 | 26 | 200 | 280 | 75 | 195 | 1247 | 360 | 550 | 610 | - | 68 | 140 | 125 | 239,0 |
| FHA2/S 100-200 | - | 30 | 200L | 125 | 100 | 125 | 500 | 230 | 940 | 1400 | 26 | 200 | 280 | 75 | 310 | 1535 | 360 | 550 | 610 | - | - | 140 | 125 | 403,0 |
| FHA2/S 100-200 | - | 37 | 200L | 125 | 100 | 125 | 500 | 230 | 940 | 1400 | 26 | 200 | 280 | 75 | 310 | 1535 | 360 | 550 | 610 | - | - | 140 | 125 | 421,0 |
| FHA2/S 100-200 | - | 45 | 225M | 125 | 100 | 125 | 500 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 335 | 1565 | 360 | 550 | 610 | 25 | - | 140 | 125 | 483,0 |
| FHA2/S 100-200 | - | 55 | 250M | 125 | 100 | 125 | 500 | 300 | 1200 | 1800 | 26 | 250 | 280 | 100 | 370 | 1675 | 360 | 670 | 730 | 50 | - | 140 | 125 | 607,0 |
| FHA4/S 100-250 | 5,5 | - | 132S | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 195 | 1252 | 400 | 550 | 610 | - | 93 | 140 | 140 | 285,0 |
| FHA4/S 100-250 | 7,5 | - | 132M | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 195 | 1292 | 400 | 550 | 610 | - | 93 | 140 | 140 | 295,0 |
| FHA4/S 100-250 | 11 | - | 160M | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 225 | 280 | 75 | 238 | 1420 | 400 | 550 | 610 | - | 65 | 140 | 140 | 341,0 |
| FHA2/S 100-250 | - | 45 | 225M | 125 | 100 | 140 | 530 | 300 | 1200 | 1800 | 26 | 225 | 280 | 100 | 335 | 1610 | 400 | 670 | 730 | - | - | 140 | 140 | 584,0 |
| FHA2/S 100-250 | - | 55 | 250M | 125 | 100 | 140 | 530 | 300 | 1200 | 1800 | 26 | 250 | 280 | 100 | 370 | 1720 | 400 | 670 | 730 | 25 | - | 140 | 120 | 662,0 |
| FHA2/S 100-250 | - | 75 | 280S | 125 | 100 | 140 | 530 | 300 | 1200 | 1800 | 26 | 280 | 280 | 100 | 380 | 1770 | 400 | 670 | 730 | 55 | - | 140 | 185 | 793,0 |
| FHA4/S 100-315 | 15 | - | 160L | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 250 | 315 | 75 | 238 | 1464 | 400 | 550 | 610 | - | 90 | 140 | 140 | 374,0 |
| FHA4/S 100-315 | 18,5 | - | 180M | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 250 | 315 | 75 | 270 | 1480 | 400 | 550 | 610 | - | 70 | 140 | 140 | 436,0 |
| FHA4/S 100-400 | 22 | - | 180L | 125 | 100 | 140 | 530 | 230 | 940 | 1400 | 26 | 280 | 355 | 75 | 270 | 1520 | 500 | 670 | 730 | - | 100 | 140 | 140 | 520,0 |
| FHA4/S 100-400 | 30 | - | 200L | 125 | 100 | 140 | 530 | 300 | 1200 | 1800 | 26 | 280 | 355 | 100 | 310 | 1580 | 500 | 670 | 730 | - | 80 | 140 | 140 | 624,0 |
| FHA4/S 125-200 | 7,5 | - | 132M | 150 | 125 | 140 | 500 | 230 | 940 | 1400 | 26 | 250 | 315 | 75 | 195 | 1262 | 400 | 550 | 610 | - | 118 | 140 | 140 | 311,0 |
| FHA4/S 125-200 | 11 | - | 160M | 150 | 125 | 140 | 500 | 230 | 940 | 1400 | 26 | 250 | 315 | 75 | 238 | 1390 | 400 | 550 | 610 | - | 90 | 140 | 140 | 358,0 |
| FHA4/S 125-200 | 15 | - | 160L | 150 | 125 | 140 | 500 | 230 | 940 | 1400 | 26 | 250 | 315 | 75 | 238 | 1434 | 400 | 550 | 610 | - | 90 | 140 | 140 | 364,0 |
| FHA4/S 125-250 | 15 | - | 160L | 150 | 125 | 140 | 530 | 230 | 940 | 1400 | 26 | 250 | 355 | 75 | 238 | 1464 | 400 | 550 | 610 | - | 90 | 140 | 140 | 374,0 |
| FHA4/S 125-250 | 18,5 | - | 180M | 150 | 125 | 140 | 530 | 230 | 940 | 1400 | 26 | 250 | 355 | 75 | 270 | 1480 | 400 | 550 | 610 | - | 70 | 140 | 140 | 437,0 |
| FHA4/S 125-250 | 22 | - | 180L | 150 | 125 | 140 | 530 | 230 | 940 | 1400 | 26 | 250 | 355 | 75 | 270 | 1520 | 400 | 550 | 610 | - | 70 | 140 | 140 | 455,0 |
| FHA4/S 125-315 | 22 | - | 180L | 150 | 125 | 140 | 530 | 230 | 940 | 1400 | 26 | 280 | 355 | 75 | 270 | 1520 | 500 | 670 | 730 | - | 100 | 140 | 140 | 525,0 |
| FHA4/S 125-315 | 30 | - | 200L | 150 | 125 | 140 | 530 | 300 | 1200 | 1800 | 26 | 280 | 355 | 100 | 310 | 1580 | 500 | 670 | 730 | - | 80 | 140 | 140 | 631,0 |
| FHA4/S 125-315 | 37 | - | 225S | 150 | 125 | 140 | 530 | 300 | 1200 | 1800 | 26 | 280 | 355 | 100 | 335 | 1615 | 500 | 670 | 730 | - | 55 | 140 | 140 | 671,0 |
| FHA4/S 125-400 | 45 | - | 225M | 150 | 125 | 140 | 530 | 300 | 1200 | 1800 | 26 | 315 | 400 | 100 | 335 | 1640 | 500 | 670 | 730 | - | 90 | 140 | 140 | 754,0 |
| FHA4/S 125-400 | 55 | - | 250M | 150 | 125 | 140 | 530 | 300 | 1200 | 1800 | 26 | 315 | 400 | 100 | 370 | 1720 | 500 | 780 | 850 | - | 65 | 140 | 140 | 827,0 |
| FHA4/S 125-400 | 75 | - | 280S | 150 | 125 | 140 | 530 | 300 | 1200 | 1800 | 26 | 315 | 400 | 100 | 380 | 1770 | 500 | 780 | 850 | - | 35 | 140 | 140 | 989,0 |
| FHA4/S 150-250 | 18,5 | - | 180M | 200 | 150 | 160 | 530 | 300 | 1200 | 1800 | 26 | 280 | 375 | 100 | 270 | 1540 | 500 | 670 | 730 | - | 100 | 180 | 160 | 555,0 |
| FHA4/S 150-250 | 22 | - | 180L | 200 | 150 | 160 | 530 | 300 | 1200 | 1800 | 26 | 280 | 375 | 100 | 270 | 1580 | 500 | 670 | 730 | - | 100 | 180 | 160 | 573,0 |
| FHA4/S 150-250 | 30 | - | 200L | 200 | 150 | 160 | 530 | 300 | 1200 | 1800 | 26 | 280 | 375 | 100 | 310 | 1640 | 500 | 670 | 730 | - | 80 | 180 | 160 | 649,0 |
| FHA4/S 150-250 | 37 | - | 225S | 200 | 150 | 160 | 530 | 300 | 1200 | 1800 | 26 | 280 | 375 | 100 | 335 | 1675 | 500 | 670 | 730 | - | 55 | 180 | 160 | 688,0 |
| FHA4/S 150-315 | 37 | - | 225S | 200 | 150 | 160 | 670 | 300 | 1200 | 1800 | 26 | 315 | 400 | 100 | 335 | 1815 | 550 | 670 | 730 | - | 90 | 180 | 160 | 743,0 |
| FHA4/S 150-315 | 45 | - | 225M | 200 | 150 | 160 | 670 | 300 | 1200 | 1800 | 26 | 315 | 400 | 100 | 335 | 1840 | 550 | 670 | 730 | - | 90 | 180 | 160 | 776,0 |
| FHA4/S 150-315 | 55 | - | 250M | 200 | 150 | 160 | 670 | 300 | 1200 | 1800 | 26 | 315 | 400 | 100 | 370 | 1920 | 550 | 780 | 850 | - | 65 | | | |

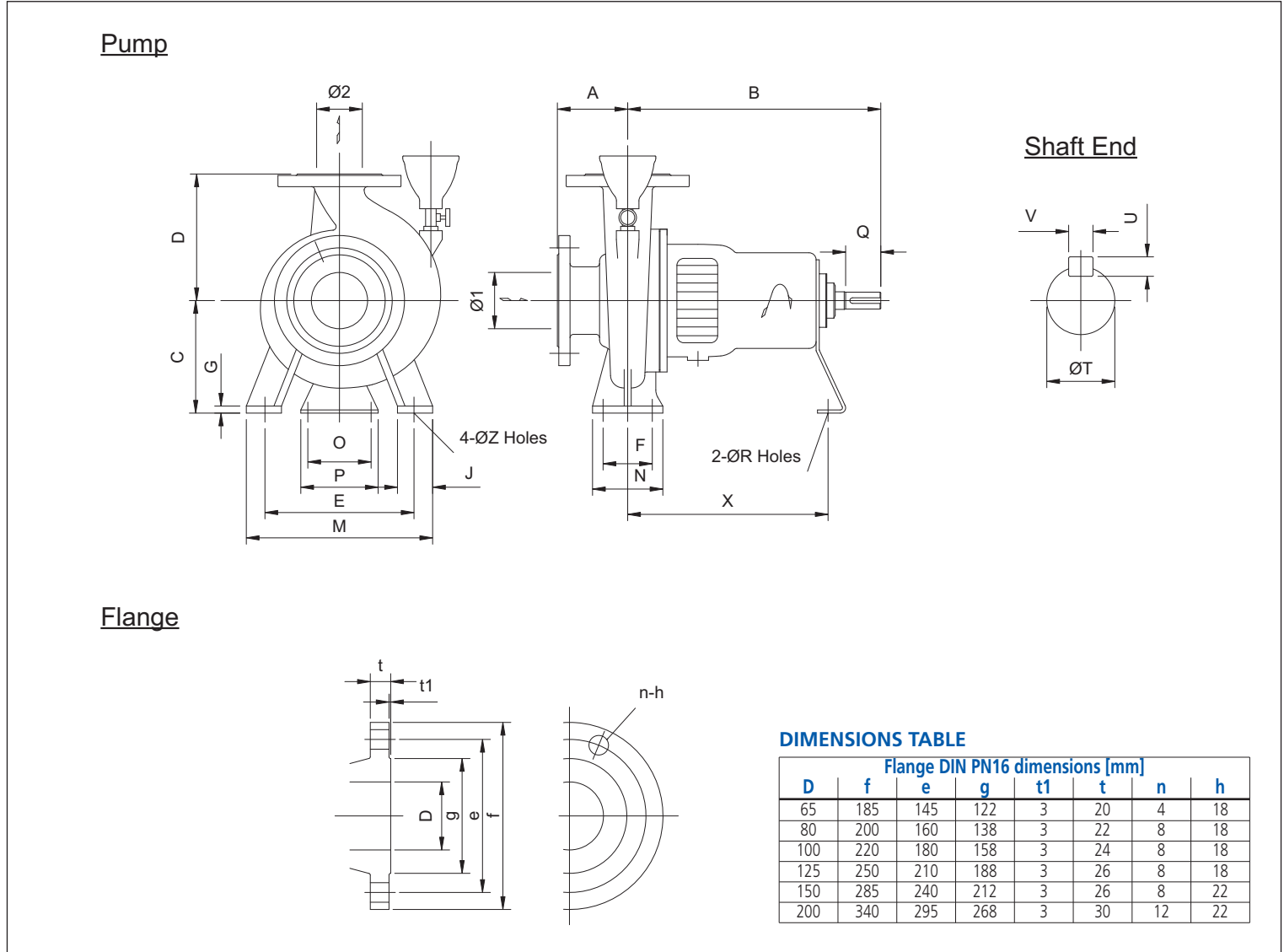


FHA

END SUCTION VOLUTE PUMPS ISO 2858 (EX DIN 24256)

in cast iron

DIMENSIONS - Bare shaft pump



DIMENSIONS TABLE

| Model | Size | | Pump dimensions [mm] | | | | | | | | | | | | | | Shaft dimensions [mm] | | | | Weight [kg] | |
|---------------|------|-----|----------------------|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----------------------|----|-----|---|-------------|-------|
| | ø1 | ø2 | A | B | C | D | E | F | G | J | M | N | O | P | R | X | Z | T | Q | U | | V |
| FHA 65-200 | 100 | 65 | 100 | 500 | 180 | 225 | 250 | 95 | 15 | 65 | 320 | 125 | 110 | 150 | 17 | 370 | 15 | 32 | 80 | 8 | 10 | 81,0 |
| FHA 65-250 | 100 | 65 | 125 | 500 | 200 | 250 | 280 | 120 | 15 | 80 | 360 | 160 | 110 | 150 | 17 | 370 | 19 | 32 | 80 | 8 | 10 | 91,0 |
| FHA 65-315 | 100 | 65 | 125 | 530 | 225 | 280 | 315 | 120 | 16 | 80 | 400 | 160 | 110 | 150 | 17 | 370 | 19 | 42 | 110 | 8 | 12 | 113,0 |
| FHA 80-160* | 100 | 80 | 100 | 500 | 160 | 200 | 212 | 95 | 14 | 65 | 280 | 125 | 110 | 150 | 17 | 370 | 15 | 32 | 80 | 8 | 10 | 64,0 |
| FHA 100-200 | 125 | 100 | 125 | 500 | 200 | 280 | 280 | 120 | 14 | 80 | 360 | 160 | 110 | 150 | 17 | 370 | 19 | 32 | 80 | 8 | 10 | 85,0 |
| FHA 100-250 | 125 | 100 | 140 | 530 | 225 | 280 | 315 | 120 | 16 | 80 | 400 | 160 | 110 | 150 | 17 | 370 | 19 | 42 | 110 | 8 | 12 | 140,0 |
| FHA 100-315 | 125 | 100 | 140 | 530 | 250 | 315 | 315 | 120 | 16 | 80 | 400 | 160 | 110 | 150 | 17 | 370 | 19 | 42 | 110 | 8 | 12 | 166,0 |
| FHA 100-400 | 125 | 100 | 140 | 530 | 280 | 355 | 400 | 150 | 20 | 100 | 500 | 200 | 110 | 150 | 17 | 370 | 24 | 42 | 110 | 8 | 12 | 218,0 |
| FHA 125-200** | 150 | 125 | 140 | 500 | 250 | 315 | 315 | 120 | 15 | 80 | 400 | 160 | 110 | 150 | 17 | 370 | 19 | 32 | 80 | 8 | 10 | 156,0 |
| FHA 125-250 | 150 | 125 | 140 | 530 | 250 | 355 | 315 | 120 | 16 | 80 | 400 | 160 | 110 | 150 | 17 | 370 | 19 | 42 | 110 | 8 | 12 | 167,0 |
| FHA 125-315 | 150 | 125 | 140 | 530 | 280 | 355 | 400 | 150 | 16 | 100 | 500 | 200 | 110 | 150 | 17 | 370 | 24 | 42 | 110 | 8 | 12 | 221,0 |
| FHA 125-400 | 150 | 125 | 140 | 530 | 315 | 400 | 400 | 150 | 20 | 100 | 500 | 200 | 110 | 150 | 17 | 370 | 24 | 42 | 110 | 8 | 12 | 267,0 |
| FHA 150-250 | 200 | 150 | 160 | 530 | 280 | 375 | 400 | 150 | 18 | 100 | 500 | 200 | 110 | 150 | 17 | 370 | 24 | 42 | 110 | 8 | 12 | 238,0 |
| FHA 150-315 | 200 | 150 | 160 | 670 | 315 | 400 | 450 | 150 | 20 | 100 | 550 | 200 | 140 | 180 | 19 | 500 | 24 | 48 | 110 | 9 | 14 | 289,0 |
| FHA 150-400 | 200 | 150 | 160 | 670 | 315 | 450 | 450 | 150 | 20 | 100 | 550 | 200 | 140 | 180 | 19 | 500 | 24 | 48 | 110 | 9 | 14 | 336,0 |

*= Dimensions not corresponding to ISO 2858
 **= Additional model not included as standard

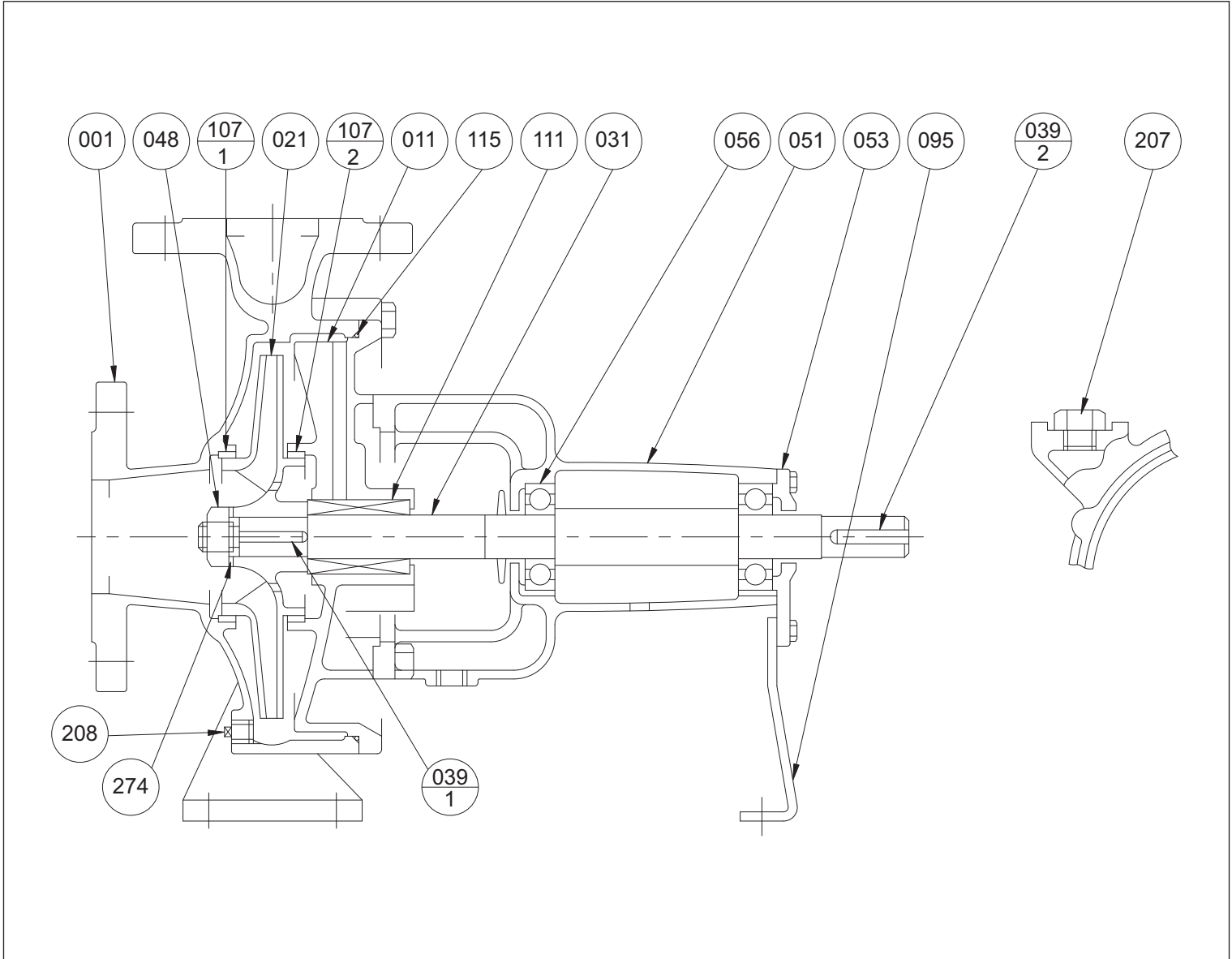


FHA

END SUCTION VOLUTE PUMPS ISO 2858 (EX DIN 24256)

in cast iron

SECTIONAL VIEW



MATERIALS TABLE

| Ref. | Name | Material | Ref. | Name | Material |
|-------|-----------------|-----------------|-------|---------------------|--------------------|
| 001 | Casing | Cast Iron | 056 | Ball Bearing | - |
| 011 | Casing Cover | Cast Iron | 095 | Stay | Steel |
| 021 | Impeller | Bronze | 107-1 | Liner Ring | Bronze |
| 031 | Shaft | Stainless Steel | 107-2 | Liner Ring | Bronze |
| 039-1 | Impeller Key | Steel | 111 | Mechanical Seal | Ceramic/Carbon/NBR |
| 039-2 | Key | Steel | 115 | O-Ring [1] | NBR |
| 048 | Impeller Nut | Brass | 207 | Plug | Steel |
| 051 | Bearing Housing | Cast Iron | 208 | Plug | Steel |
| 053 | Bearing Cover | Cast Iron | 274 | Impeller Nut Washer | Steel |

[1]= In EPDM for Y and G versions

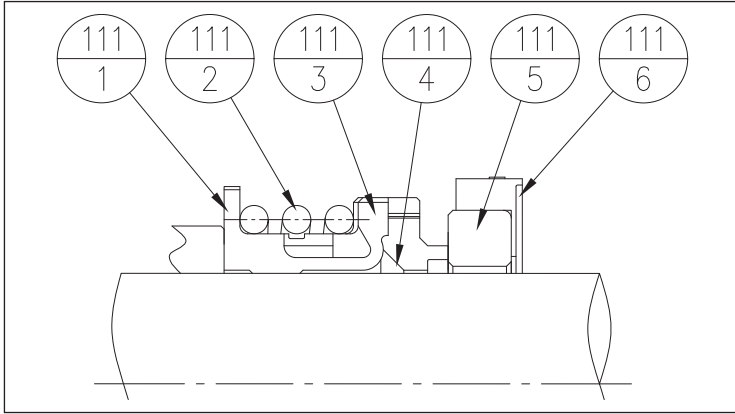


FHA

END SUCTION VOLUTE PUMPS ISO 2858 (EX DIN 24256)

in cast iron

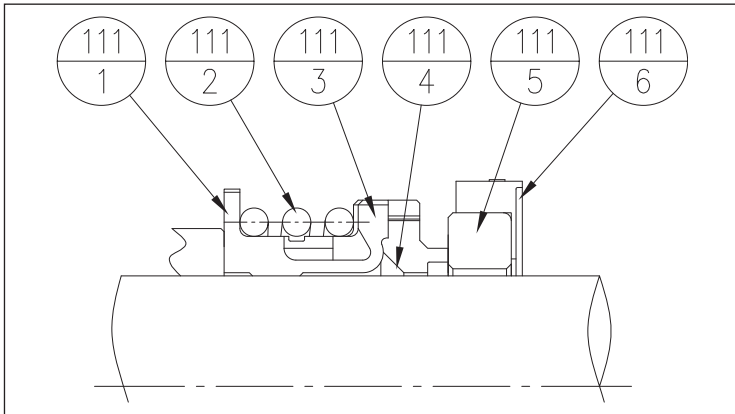
MECHANICAL SEAL standard



MATERIALS TABLE

| Ref. | Name | Material |
|-------|---------------|-----------------|
| 111-6 | Cup Gasket | NBR |
| 111-5 | Mating Ring | Ceramic |
| 111-4 | Seal Ring | Carbon |
| 111-3 | Bellows | EPDM |
| 111-2 | Spring | Stainless Steel |
| 111-1 | Spring Holder | Stainless Steel |

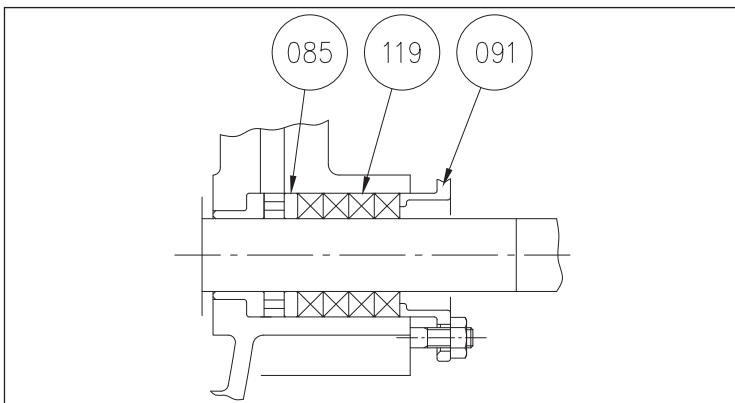
MECHANICAL SEAL Y version (for high temperature)



MATERIALS TABLE

| Ref. | Name | Material |
|-------|---------------|-----------------|
| 111-6 | Cup Gasket | EPDM |
| 111-5 | Mating Ring | SiC |
| 111-4 | Seal Ring | Carbon |
| 111-3 | Bellows | EPDM |
| 111-2 | Spring | Stainless Steel |
| 111-1 | Spring Holder | Stainless Steel |

GLAND PACKING G version (for high temperature)



MATERIALS TABLE

| Ref. | Name | Material |
|------|---------------|--------------------|
| 119 | Gland | Teflon Impregnated |
| 091 | Gland Packing | Bronze |
| 085 | Lantern Ring | Bronze |

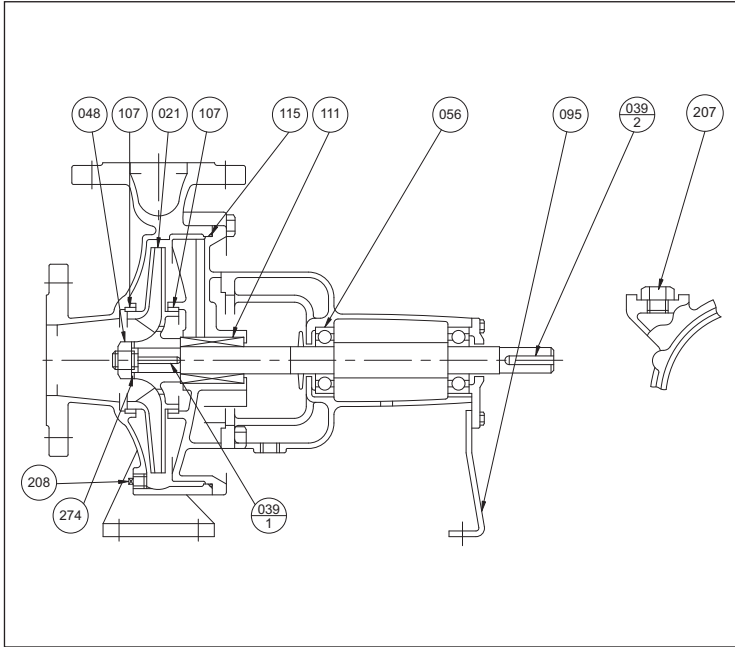


FHA

END SUCTION VOLUTE PUMPS ISO 2858 (EX DIN 24256)

in cast iron

SPARE PARTS



MATERIALS TABLE

Recommended spare parts stock for 2 years' continuous operation

| Ref. | Name | Q.ty/Unit |
|---------|---------------------------------|-----------|
| 021 | Impeller | 1 |
| 039-1 | Impeller key | 1 |
| 039-2 | Key | 1 |
| 048 | Impeller nut | 1 |
| 056 | Ball bearing | 2 |
| 095 | Stay | 1 |
| 107 | Liner ring | 2 |
| 111 | Mechanical seal / Gland packing | 1 |
| 115 | O-Ring | 1 |
| 207/208 | Plug | 4 |
| 274 | Impeller nut washer | 1 |

CHANGEABILITY CHART

| Part name | Casing | Casing cover | Impeller | Shaft | Impeller key | Key | Impeller nut | Bearing housing | Bearing cover | Ball bearing | Stay | Liner ring | Mechanical seal/ Gland packing | O-Ring | Impeller nut washer |
|-------------|--------|--------------|----------|-------|--------------|-------|--------------|-----------------|---------------|--------------|------|------------|-----------------------------------|--------|---------------------|
| Model | 001 | 011 | 021 | 031 | 039-1 | 039-2 | 048 | 051 | 053 | 056 | 095 | 107 | 111 | 115 | 274 |
| FHA 65-200 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| FHA 65-250 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 |
| FHA 65-315 | 3 | 3 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 3 | 2 |
| FHA 80-160 | 4 | 4 | 4 | 3 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 3 | 4 | 3 |
| FHA 100-200 | 5 | 5 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 |
| FHA 100-250 | 6 | 6 | 6 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 |
| FHA 100-315 | 7 | 7 | 7 | 4 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 4 | 3 | 3 | 4 |
| FHA 100-400 | 8 | 8 | 8 | 5 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 5 | 5 |
| FHA 125-200 | 9 | 9 | 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 |
| FHA 125-250 | 10 | 10 | 10 | 4 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 5 | 2 | 2 | 4 |
| FHA 125-315 | 11 | 11 | 11 | 5 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 3 | 3 | 5 |
| FHA 125-400 | 12 | 12 | 12 | 5 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 2 | 4 | 5 |
| FHA 150-250 | 13 | 13 | 13 | 5 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 7 | 2 | 2 | 5 |
| FHA 150-315 | 14 | 14 | 14 | 6 | 5 | 3 | 4 | 3 | 3 | 3 | 3 | 8 | 4 | 3 | 6 |
| FHA 150-400 | 15 | 15 | 15 | 6 | 5 | 3 | 4 | 3 | 3 | 3 | 3 | 8 | 4 | 5* | 6 |

*=Sheet packing

The chart shows the part list (main parts) of FHA pumps, and each part is designated by a number. (1,2,3,...)

Parts designated by the same number and placed in the same column means that these parts are changeable among these pumps sizes.



FHA

END SUCTION VOLUTE PUMPS ISO 2858 (EX DIN 24256)

in cast iron

SPECIFIC PERFORMANCE

The specifications given refer to the curves illustrated in our catalogues and Data Book (see www.ebara.europa.com). All of the performance curves are calculated according to ISO 9906 Attachment A.

Tolerance according to ISO 9906 Annex A.

The curves refer to an effective speed of the 50 Hz asynchronous motors.

The measurements are made with water temperature of 20°C and cinematic viscosity of = 1 mm²/s (1 cSt).

In order to prevent the risk of overheating, the pumps must not be used at a flow rate below 10% of the maximum efficiency flow rate.

During selection of the pumps, there is a safety margin of at least 1 m.

- Symbols: Q = Flow rate [m³/h]
 H = Head [m]
 P₁ = Power absorbed by the electric line
 P₂ = Power yielded to the motor axis (power absorbed by the pump)





PRESSURE LOSS TABLE

Pressure drop (Pc) in metres of column of water for every one hundred metres of new cast iron pipe. Speed of the liquid in the pipe in metres/second.

| Flow rate [m³/h] | | Internal diameter [mm] | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------|--------------|------------------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----|-----|-----|-----|-----|-----|-----|------|--|
| | | 25 | 32 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 125 | 150 | 175 | 200 | 225 | 250 | 275 | 300 | 350 | 400 | 450 | 500 | 600 | 700 | 800 | 900 | 1000 | |
| 3 | Pc % Vm/s | 17 1,70 | 6 1,03 | 1,6 0,67 | 0,54 0,43 | 0,25 0,29 | 0,13 0,22 | 0,06 0,16 | 0,03 0,13 | 0,02 0,10 | | | | | | | | | | | | | | | | | | |
| 6 | Pc % Vm/s | | 24 2,06 | 6 1,34 | 2 0,85 | 0,9 0,58 | 0,43 0,44 | 0,21 0,32 | 0,13 0,26 | 0,08 0,20 | 0,026 0,13 | | | | | | | | | | | | | | | | | |
| 9 | Pc % Vm/s | | | 12,5 2,08 | 4,3 1,32 | 1,8 0,89 | 0,9 0,65 | 0,46 0,5 | 0,25 0,39 | 0,15 0,32 | 0,06 0,20 | | | | | | | | | | | | | | | | | |
| 12 | Pc % Vm/s | | | 20 2,76 | 7 1,76 | 3,2 1,19 | 1,5 0,88 | 0,75 0,67 | 0,44 0,53 | 0,25 0,43 | 0,09 0,27 | 0,03 0,18 | | | | | | | | | | | | | | | | |
| 15 | Pc % Vm/s | | | | 12 2,2 | 5,2 1,49 | 2,4 1,1 | 1,25 0,87 | 0,7 0,66 | 0,42 0,54 | 0,15 0,34 | 0,06 0,24 | | | | | | | | | | | | | | | | |
| 18 | Pc % Vm/s | | | | 17 2,64 | 7 1,78 | 3,5 1,3 | 1,7 1 | 1 0,78 | 0,6 0,64 | 0,2 0,4 | 0,08 0,28 | | | | | | | | | | | | | | | | |
| 21 | Pc % Vm/s | | | | 22 3,35 | 8,8 2,08 | 4,2 1,54 | 2,2 1,17 | 1,3 0,93 | 0,75 0,75 | 0,26 0,48 | 0,1 0,32 | 0,05 0,24 | | | | | | | | | | | | | | | |
| 24 | Pc % Vm/s | | | | 12 2,38 | 5,7 1,76 | 3 1,34 | 1,7 1,06 | 1 0,86 | 0,36 0,54 | 0,17 0,36 | 0,07 0,28 | | | | | | | | | | | | | | | | |
| 27 | Pc % Vm/s | | | | 14 2,7 | 7 1,97 | 3,5 1,45 | 2 1,17 | 1,25 0,96 | 0,42 0,6 | 0,17 0,42 | 0,08 0,31 | | | | | | | | | | | | | | | | |
| 30 | Pc % Vm/s | | | | 17 2,98 | 8,2 2,2 | 4,2 1,74 | 2,5 1,32 | 1,5 1,08 | 0,5 0,68 | 0,2 0,48 | 0,09 0,34 | | | | | | | | | | | | | | | | |
| 36 | Pc % Vm/s | | | | 25 3,58 | 12 2,63 | 6,3 2 | 3,5 1,58 | 2 1,28 | 0,75 0,82 | 0,3 0,57 | 0,14 0,42 | 0,07 0,32 | | | | | | | | | | | | | | | |
| 42 | Pc % Vm/s | | | | | 16 3,07 | 8,5 2,34 | 4,5 1,85 | 2,7 1,5 | 0,85 0,96 | 0,33 0,66 | 0,18 0,48 | 0,08 0,37 | | | | | | | | | | | | | | | |
| 48 | Pc % Vm/s | | | | | 21 3,51 | 10 2,68 | 6 2,12 | 3,6 1,72 | 1,2 1,08 | 0,45 0,72 | 0,22 0,56 | 0,12 0,43 | 0,06 0,34 | | | | | | | | | | | | | | |
| 54 | Pc % Vm/s | | | | | 25 3,94 | 13,5 3 | 7,6 2,34 | 4,5 1,92 | 1,5 1,2 | 0,55 0,84 | 0,28 0,63 | 0,14 0,48 | 0,08 0,38 | | | | | | | | | | | | | | |
| 60 | Pc % Vm/s | | | | | 16 3,32 | 9 2,64 | 5,5 2,16 | 1,8 1,36 | 0,7 0,96 | 0,33 0,68 | 0,17 0,53 | 0,1 0,42 | | | | | | | | | | | | | | | |
| 75 | Pc % Vm/s | | | | | 24 4,17 | 14 3,31 | 8 2,68 | 2,76 1,72 | 1 1,18 | 0,49 0,87 | 0,24 0,67 | 0,14 0,53 | 0,08 0,43 | | | | | | | | | | | | | | |
| 90 | Pc % Vm/s | | | | | 20 3,97 | 12,5 3,24 | 3,8 2,04 | 1,45 1,44 | 0,74 1,02 | 0,36 0,8 | 0,2 0,63 | 0,14 0,51 | 0,08 0,42 | | | | | | | | | | | | | | |
| 105 | Pc % Vm/s | | | | | 26 4,6 | 16,5 3,74 | 5,3 2,41 | 1,95 1,66 | 0,9 1,22 | 0,47 0,93 | 0,27 0,74 | 0,16 0,59 | 0,1 0,49 | | | | | | | | | | | | | | |
| 120 | Pc % Vm/s | | | | | | | | 21,5 4,31 | 6,9 2,72 | 2,6 1,93 | 1,2 1,35 | 0,61 1,06 | 0,36 0,84 | 0,2 0,68 | 0,14 0,56 | 0,08 0,47 | | | | | | | | | | | |
| 135 | Pc % Vm/s | | | | | | | | 26 4,81 | 9 1,07 | 3,3 2,13 | 1,5 1,56 | 0,76 1,19 | 0,45 0,95 | 0,25 0,76 | 0,17 0,63 | 0,1 0,53 | | | | | | | | | | | |
| 150 | Pc % Vm/s | | | | | | | | | 11 3,44 | 4 2,36 | 1,9 1,74 | 0,95 1,34 | 0,55 1,05 | 0,3 0,86 | 0,21 0,70 | 0,12 0,59 | 0,06 0,43 | | | | | | | | | | |
| 165 | Pc % Vm/s | | | | | | | | | 13 3,75 | 4,7 2,61 | 2,2 1,91 | 1,13 1,46 | 0,65 1,15 | 0,37 0,94 | 0,24 0,77 | 0,15 0,65 | 0,08 0,48 | | | | | | | | | | |
| 180 | Pc % Vm/s | | | | | | | | | 15,2 4,09 | 5,5 2,83 | 2,6 2,08 | 1,3 1,59 | 0,76 1,26 | 0,43 1,02 | 0,29 0,84 | 0,18 0,71 | 0,09 0,52 | | | | | | | | | | |
| 210 | Pc % Vm/s | | | | | | | | | 21 4,70 | 7,4 3,32 | 3,5 2,43 | 1,8 1,86 | 1,1 1,49 | 0,6 1,19 | 0,37 0,98 | 0,24 0,82 | 0,12 0,61 | 0,06 0,47 | | | | | | | | | |
| 240 | Pc % Vm/s | | | | | | | | | | 9,4 3,78 | 4,3 2,77 | 2,3 2,12 | 1,3 1,68 | 0,75 1,36 | 0,48 1,12 | 0,3 0,95 | 0,15 0,69 | 0,08 0,53 | | | | | | | | | |
| 270 | Pc % Vm/s | | | | | | | | | | 12 4,26 | 5,5 3,13 | 2,8 2,39 | 1,62 1,90 | 0,9 1,53 | 0,58 1,26 | 0,35 1,07 | 0,18 0,78 | 0,09 0,59 | | | | | | | | | |
| 300 | Pc % Vm/s | | | | | | | | | | 14 4,75 | 7,5 3,47 | 3,4 2,66 | 2 2,10 | 1,1 1,71 | 0,74 1,40 | 0,46 1,18 | 0,22 0,86 | 0,07 0,53 | | | | | | | | | |
| 360 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 420 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 480 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 540 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 600 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 660 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 720 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 780 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 840 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 900 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 960 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1020 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1080 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1140 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1200 | Pc % Vm/s | | | | | | | | | | | | | | | | | | | | | | | | | | | |

It is possible to estimate the pressure drops caused by accessories with the following comparisons:
 - Foot valve: like 15 m of piping
 - Non-return valve: like 10 m of piping
 - Gate: like 5 m of piping
 - Bends and elbows: like 5 m of piping

For piping different to the new cast iron ones, multiply the table data for the following coefficients:
 - stainless steel 0,8
 - PVC 0,7
 - gres 1,17
 - rolled steel 0,8
 - galvanised steel 0,8
 - slightly rusty pipes 1,25
 - rust pipes with a lot of deposits 2,1

Recommended discharge diameter
 Recommended suction diameter

