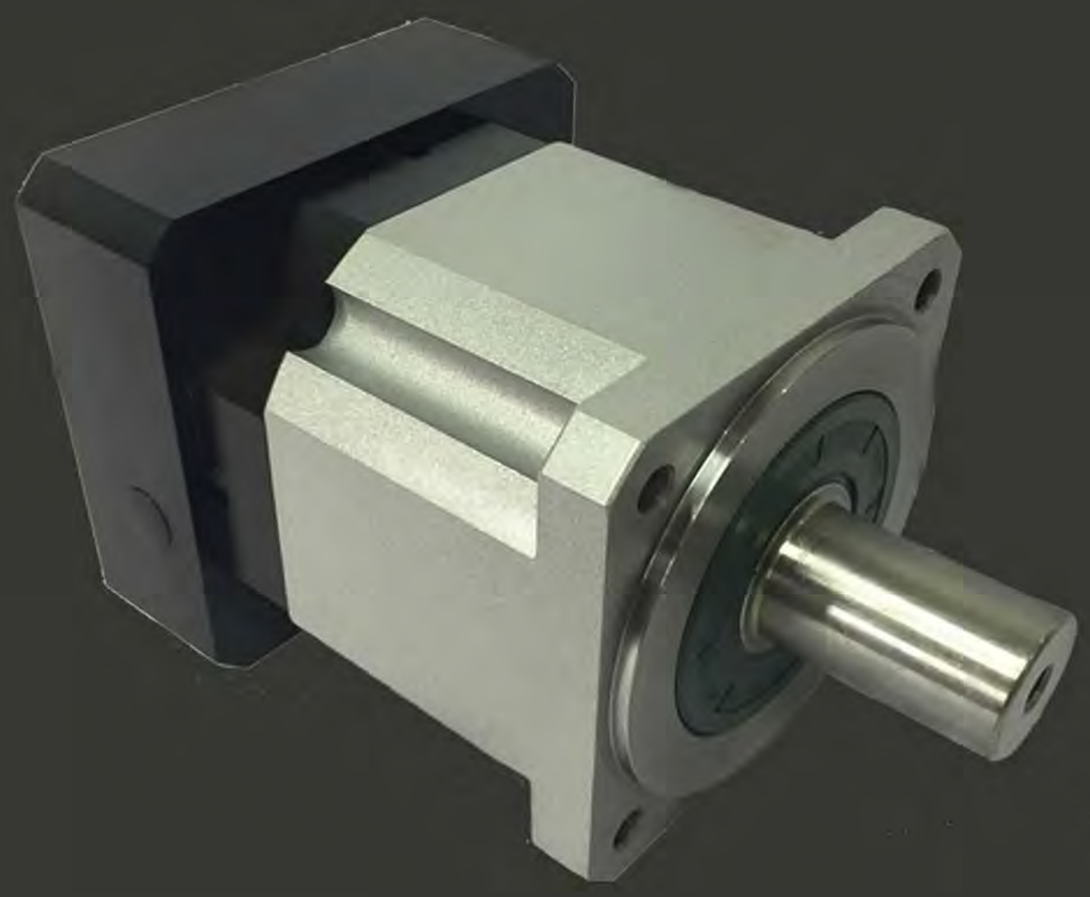
浙江格尔减速机有限公司

ZHEJIANG GEAR SPEED REDUCDCR CO.,LTD

GEAR 格尔

致力于打造一流的驱动技术方案

PROVIDE FIRST CLASS DRIVING SOLUTION



# 产品手册

# CATALOGUE

# GEAR TRANSMISSION

## ZB SERIES TECHNICAL SPECIFICATIONS

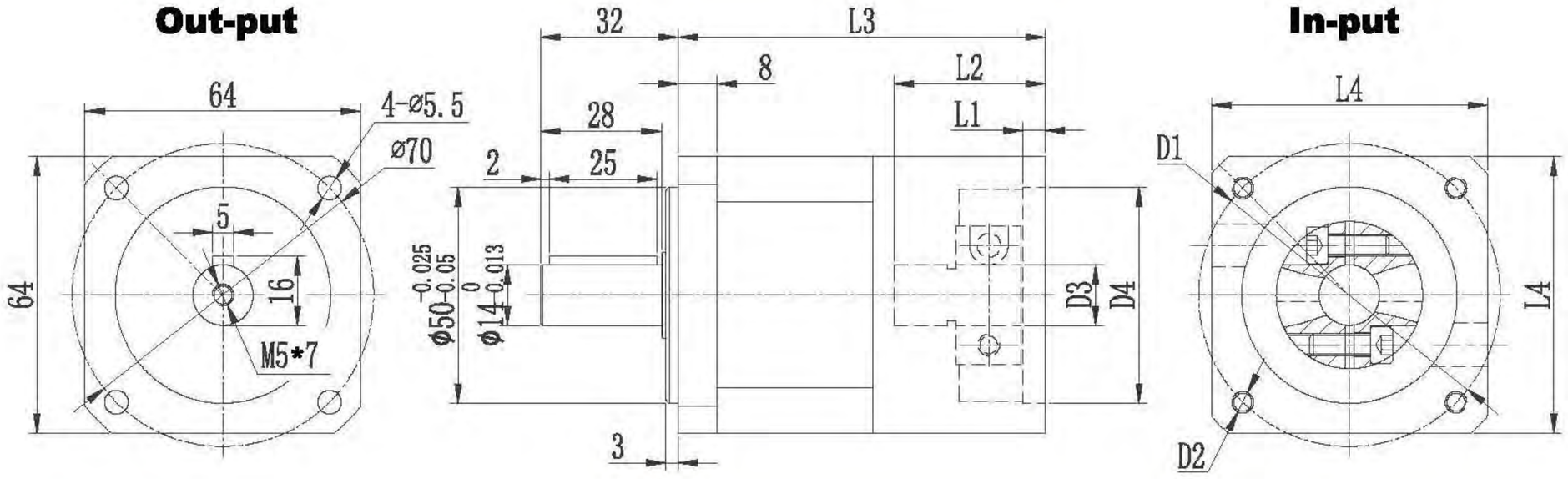
| Specification | Units | Stage | Ratio | ZB60 | ZB90 | ZB115 | ZB142 | ZB190 | ZB240 | ZB285 | ZB330 | ZB400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rated Output Torque/T2N | NM | L1 | 3 | 25 | 50 | 140 | 310 | 1200 | 1900 | 3175 | 5043 | 7500 |
| | | | 4 | 42 | 120 | 260 | 800 | 1780 | 3710 | 6400 | 10000 | 17000 |
| | | | 5 | 40 | 110 | 240 | 680 | 1345 | 3000 | 5500 | 8800 | 16000 |
| | | | 7 | | | 105 | 470 | | | | | |
| | | | 8 | 18 | 55 | | | 850 | 1700 | 3200 | 5000 | 7500 |
| | | | 10 | 15 | 32 | 100 | 230 | 750 | 950 | 1600 | 3500 | 7600 |
| | | L2 | 9 | 42 | 50 | 140 | 340 | 1070 | 1830 | 3175 | 5043 | 7500 |
| | | | 12 | 41 | 50 | 200 | 680 | 1485 | 1836 | 6400 | 10000 | 17000 |
| | | | 15 | 41 | 50 | 200 | 680 | 1485 | 1836 | 5500 | 8800 | 16000 |
| | | | 16 | 42 | 110 | 260 | 800 | 2035 | 3710 | 6400 | 10000 | 17000 |
| | | | 20 | 42 | 110 | 260 | 800 | 2035 | 3710 | 6400 | 10000 | 17000 |
| | | | 25 | 40 | 100 | 240 | 680 | 1485 | 3000 | 5500 | 8800 | 16000 |
| | | | 28 | | | 235 | 800 | 2035 | 3710 | 6400 | 10000 | 17000 |
| | | | 30 | 25 | 65 | 235 | 680 | 2035 | 1900 | 5500 | 8800 | 16000 |
| | | | 32 | 45 | 125 | | | 2035 | 3710 | 6400 | 10000 | 17000 |
| | | | 35 | | | 140 | 590 | 1450 | 3000 | 5120 | 8500 | 12200 |
| | | | 40 | 42 | 100 | 260 | 680 | 1780 | 3710 | 5500 | 8800 | 16000 |
| | | | 50 | | | 120 | 500 | 1070 | 3000 | 5120 | 8500 | 12200 |
| | | | 64 | 18 | 55 | | | 850 | 1700 | 3200 | 5000 | 7500 |
| | | | 70 | | | 140 | 470 | | | | | |
| | | | 100 | | | 125 | 400 | 920 | 950 | 1820 | 3500 | 5000 |
| | | L3 | 60 | 45 | 125 | 260 | 800 | 1780 | 3700 | 6400 | 10000 | 17000 |
| | | | 64 | 42 | 120 | 260 | 800 | 2590 | 3710 | 6400 | 10000 | 17000 |
| | | | 80 | 45 | 110 | 260 | 800 | 2590 | 3710 | 6400 | 10000 | 17000 |
| | | | 100 | 45 | 110 | 260 | 800 | 2590 | 3710 | 6400 | 10000 | 17000 |
| | | | 120 | 40 | 110 | 260 | 800 | 2590 | 1900 | 6400 | 10000 | 17000 |
| | | | 125 | 41 | 110 | 230 | 700 | 1600 | 3100 | 5500 | 8800 | 16000 |
| | | | 140 | | | 260 | 800 | 2590 | 3710 | | | |
| | | | 150 | | | 260 | 800 | 2590 | 1900 | 5500 | 8800 | 16000 |
| | | | 160 | 45 | 120 | 260 | 800 | 2590 | 3700 | 6400 | 10000 | 17000 |
| | | | 200 | 40 | 90 | 230 | 800 | 1855 | 3710 | 5500 | 8800 | 17000 |
| | | | 250 | | | 200 | 680 | 2596 | 3000 | 5120 | 8500 | 12200 |
| | | | 256 | 45 | 125 | | | 1780 | 3000 | 6400 | 10000 | 17000 |
| | | | 320 | 41 | 110 | | | 1600 | 3100 | 5500 | 8800 | 16000 |
| | | | 350 | | | 112 | 515 | 1450 | 2270 | 5120 | 8500 | 12200 |
| | | | 400 | | | 112 | 515 | 1450 | 2270 | 5120 | 9800 | 16000 |
| | | | 500 | | | 112 | 515 | 1450 | 2270 | 5120 | 9800 | 16000 |
| | | | 512 | 18 | 55 | | | 850 | 1700 | 3200 | 5000 | 7500 |
| | | | 700 | | | 112 | 515 | | | | | |
| | | | 1000 | | | 112 | 400 | 730 | 1050 | 1820 | 3500 | 5000 |
| | | L4 | Above 4 Stages Please Contact Us | | | | | | | | | |
| Backlash (arcmin ) | | L1 | | ≤8 | ≤8 | ≤8 | ≤8 | ≤10 | ≤12 | ≤12 | ≤15 | ≤18 |
| | | L2 | | ≤10 | ≤10 | ≤10 | ≤10 | ≤12 | ≤14 | ≤15 | ≤18 | ≤20 |
| | | L3 | | ≤12 | ≤12 | ≤12 | ≤12 | ≤15 | ≤18 | ≤20 | ≤22 | ≤24 |
| Max.Radial Force | | N | | 265 | 450 | 1240 | 3700 | 6500 | 10500 | 15000 | 17000 | 26500 |
| Max.Axial Force | | N | | 200 | 420 | 1000 | 3500 | 5000 | 10000 | 12000 | 15000 | 20000 |
| Emergency Stop Torque | | NM | 2 Times Rated Torque | | | | | | | | | |
| Effiency ( η ) | | L1 | 96% | | | | | | | | | |
| | | L2 | 94% | | | | | | | | | |
| | | L3 | 90% | | | | | | | | | |
| Rated Input Speed(rpm) | | | | 3500 | 3500 | 3000 | 2000 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Max.Input Speed(rpm) | | | | 7000 | 6000 | 5000 | 3500 | 3000 | 2500 | 2000 | 2000 | 2000 |
| GWT ( kg ) | | L1 | | 1.3 | 3.6 | 9.25 | 20 | 31 | 70 | 113 | 145 | 250 |
| | | L2 | | 1.5 | 4.2 | 11.5 | 25 | 42 | 88 | 136 | 190 | 340 |
| | | L3 | | 1.8 | 4.8 | 13.5 | 30 | 50 | 96 | 140 | 215 | 360 |
| Service Life | | h | 20000 Hrs | | | | | | | | | |
| Noise | | dB | | ≤60 | ≤62 | ≤65 | ≤65 | ≤68 | ≤68 | ≤78 | ≤80 | ≤80 |
| Lubrication | | | Whole-life Free Service(Synthetic Complex Soap Grease) | | | | | | | | | |
| Operating Temperature | | | '-10℃-+90℃ ( Beyond Temperature Please Contact Us ) | | | | | | | | | |
| Mounting | | | Any Position | | | | | | | | | |
| Protect Class | | | IP65 | | | | | | | | | |

1. About L1 specifications major are measured on 5 : 1 gear ratio.
2. Ratios; ( i = Nin /Out )
3. Backlash : Measured on 2% of nominal output torque.
4. Max. Radial and Axial Load; Applied to the output shaft center, and 50% of duty time,and at 100rpm.
5. Duty Cycle < 60%, Average Lifetime = List value; Duty Cycle >= 60%, Average Lifetime < 50% List value.
6. Noise Level; Distance 1m, and measured on idle running, and at nominal input speed.

# ZB60 Drawing Diemensions

## S2(Shaft with key-way)

**Out-put**

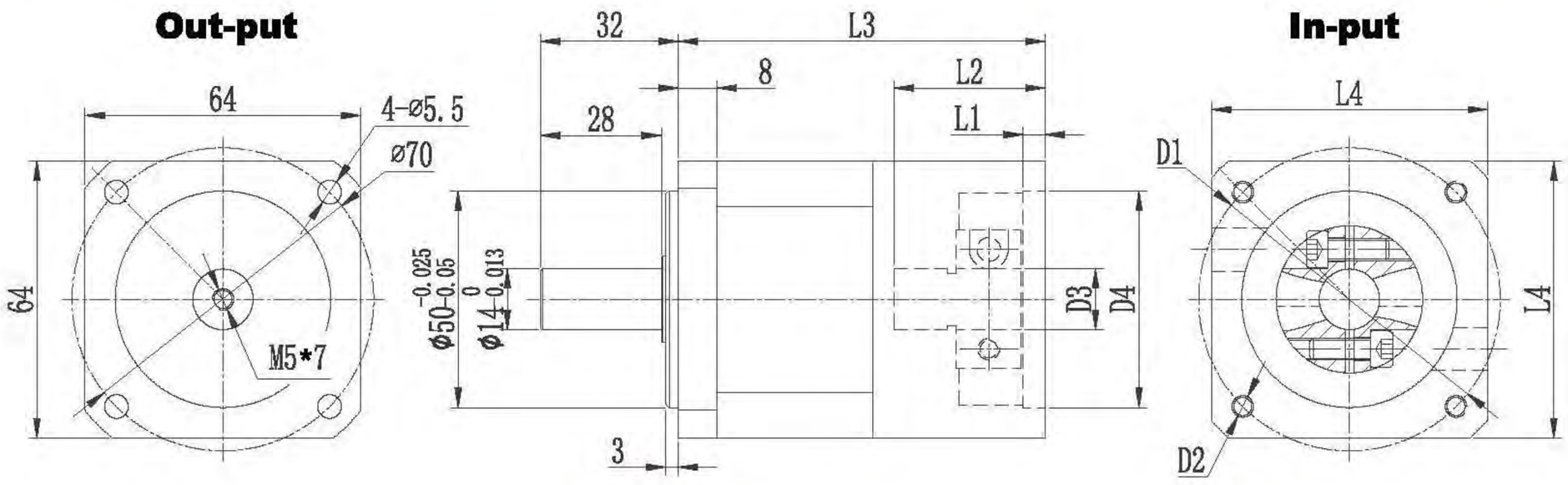



**In-put**




## S1 (Shaft)

**Out-put**

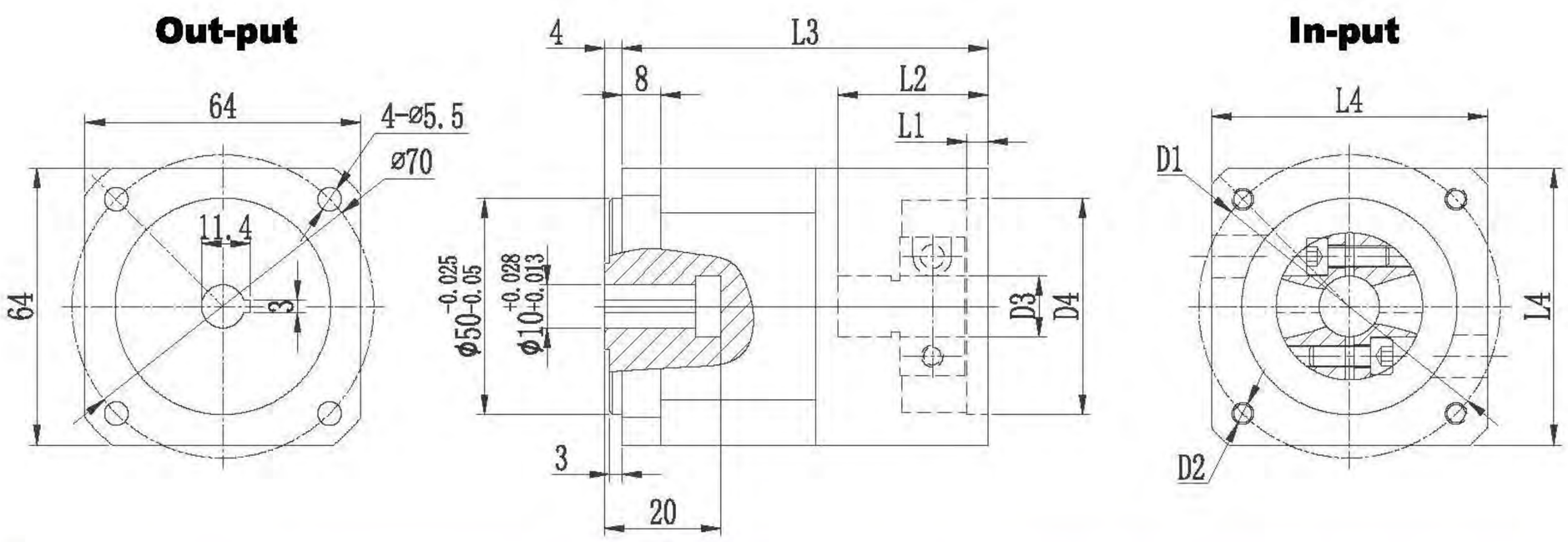



**In-put**




## S3 (Hollow Shaft)

**Out-put**




**In-put**



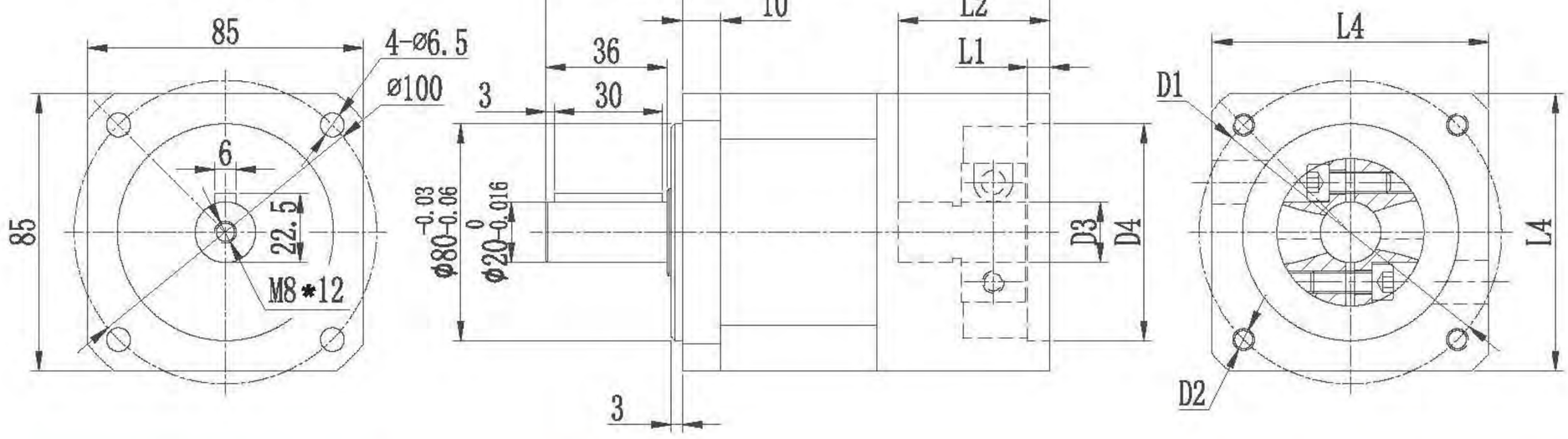

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.2KW | 70 | 4-M4/M5 | ø11(F7) | 35 | ø50(F7) | 5 | 64 | 94 | 113 | 132 |
| 0.4KW | 70 | 4-M4/M5 | ø14(F7) | 35 | ø50(F7) | 5 | 64 | 94 | 113 | 132 |

**Note:Above mentioned size based on standard product, we are accept any others change.**

# ZB90 Drawing Diemensions

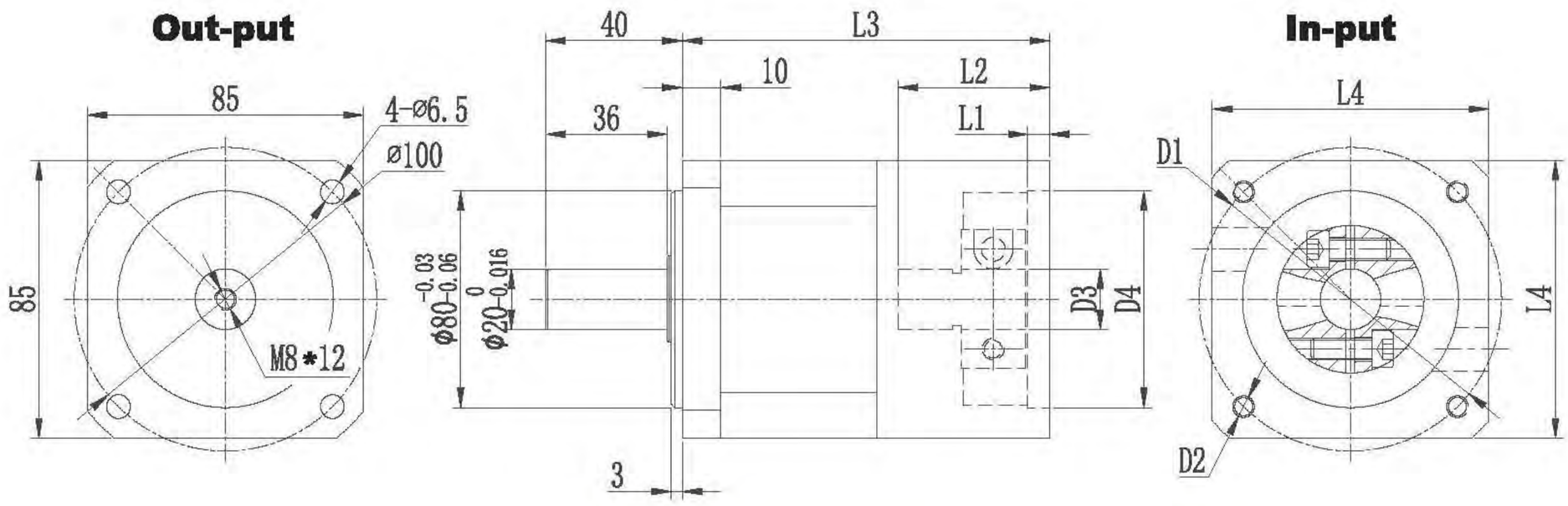
## S2(Shaft with key-way)

**Out-put**



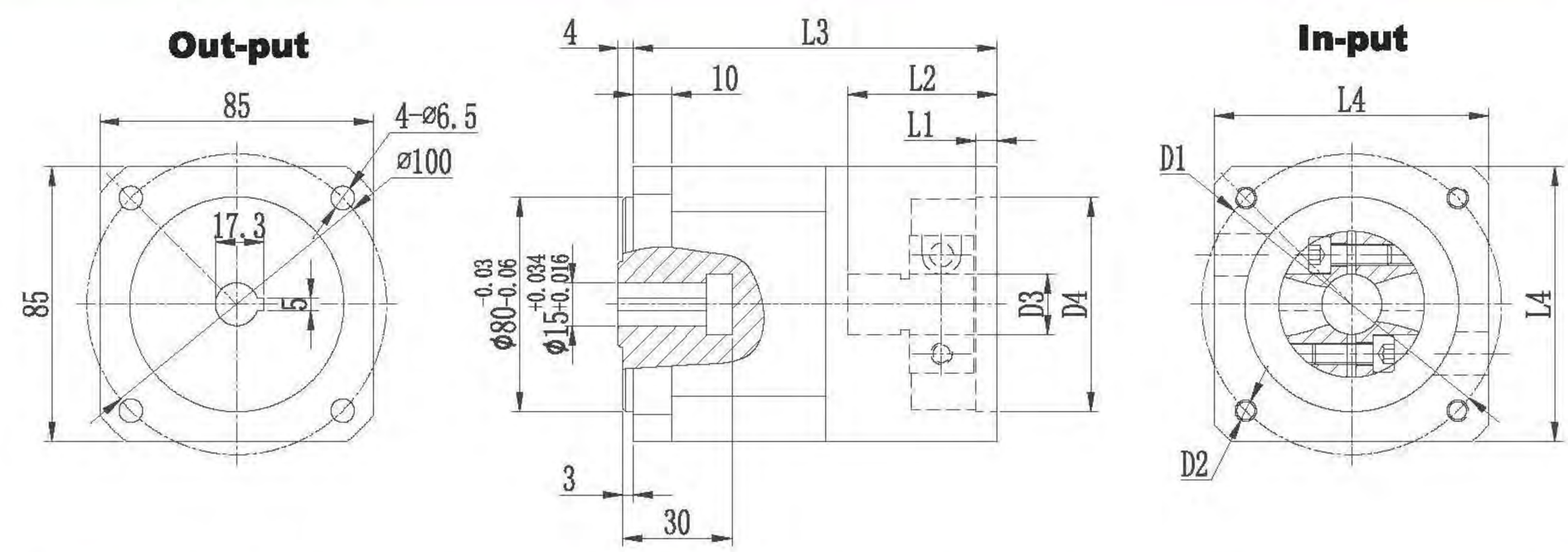

## S1 (Shaft)

**Out-put**




## S3 (Hollow Shaft)

**Out-put**



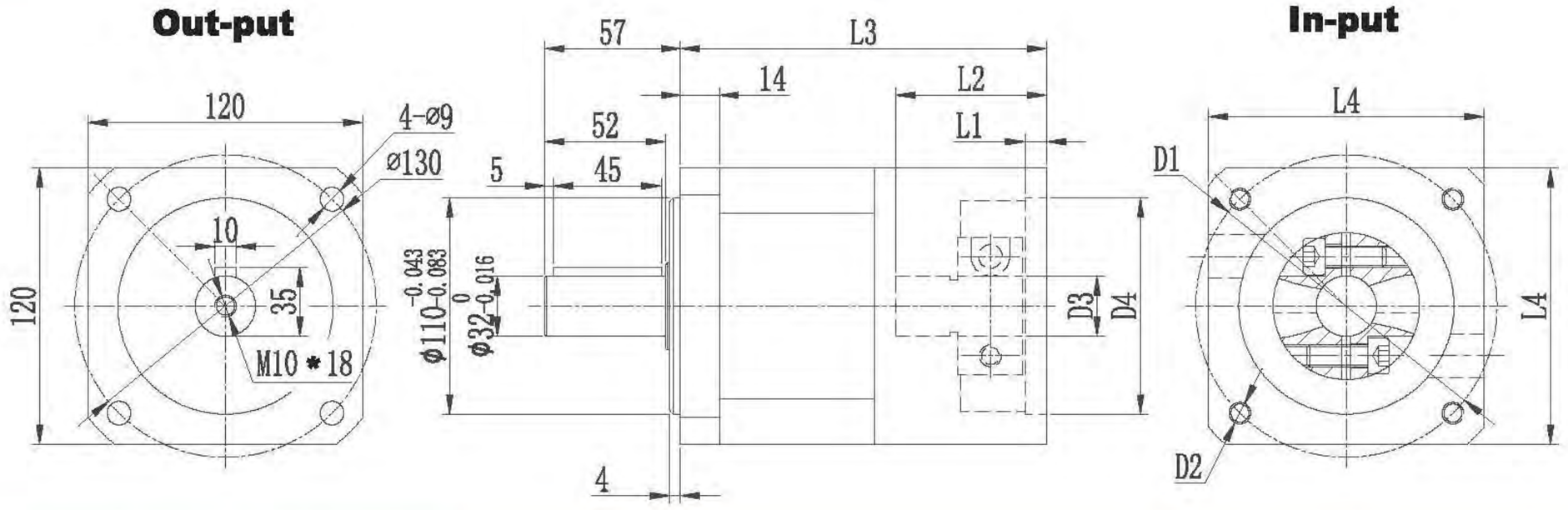

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.4KW | 70 | 4-M4/M5 | φ14(F7) | 45 | 50(F7) | 5 | 85 | 100 | 120 | 139 |
| 0.75KW | 90 | 4-M5/M6 | φ19(F7) | 45 | 70(F7) | 5 | 85 | 100 | 120 | 139 |

**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZB115 Drawing Diemensions

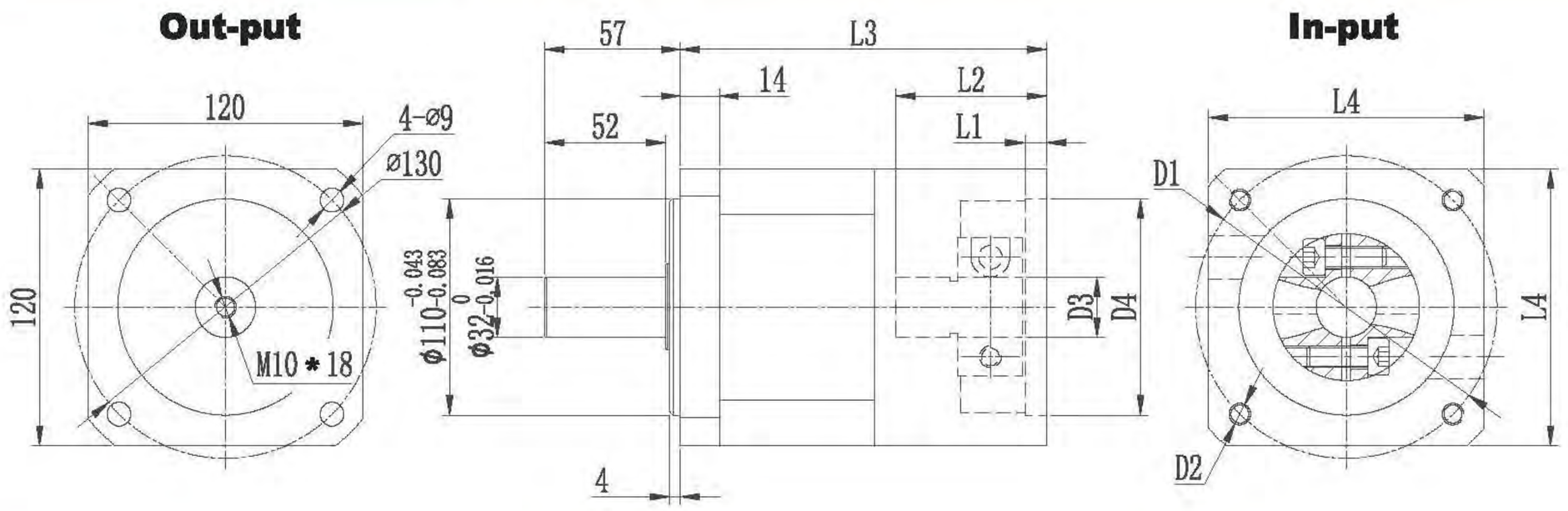
## S2(Shaft with key-way)

**Out-put**



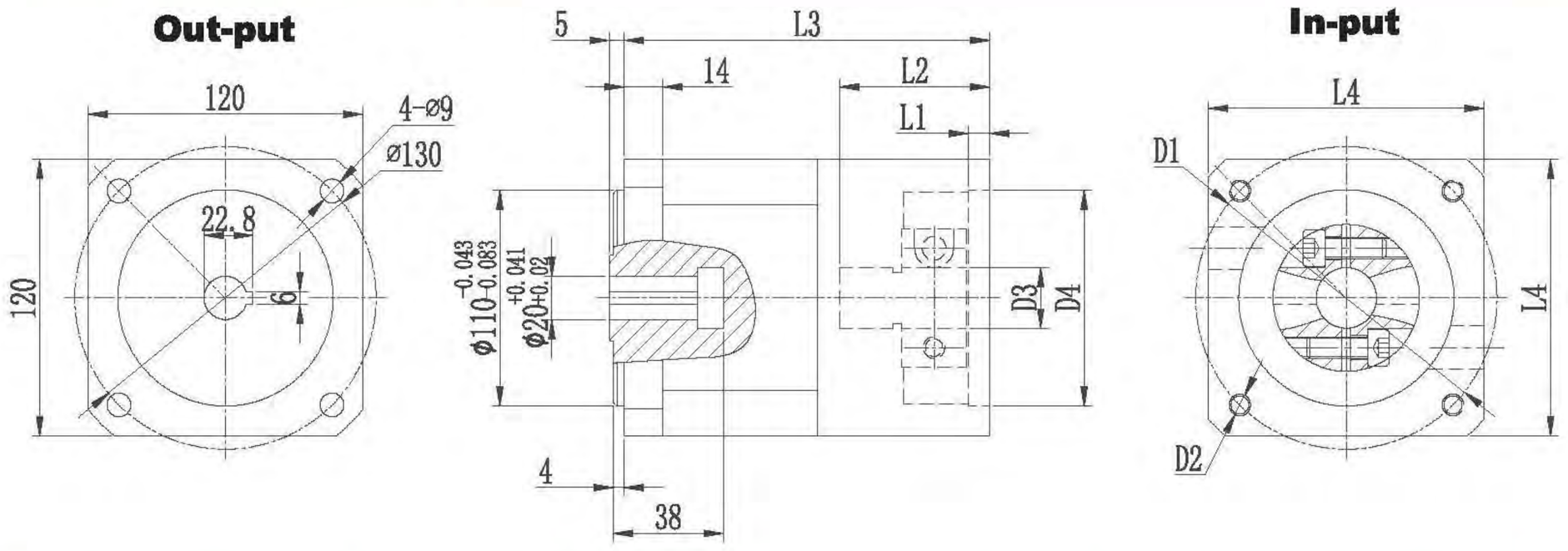

## S1 (Shaft)

**Out-put**




## S3 (Hollow Shaft)

**Out-put**



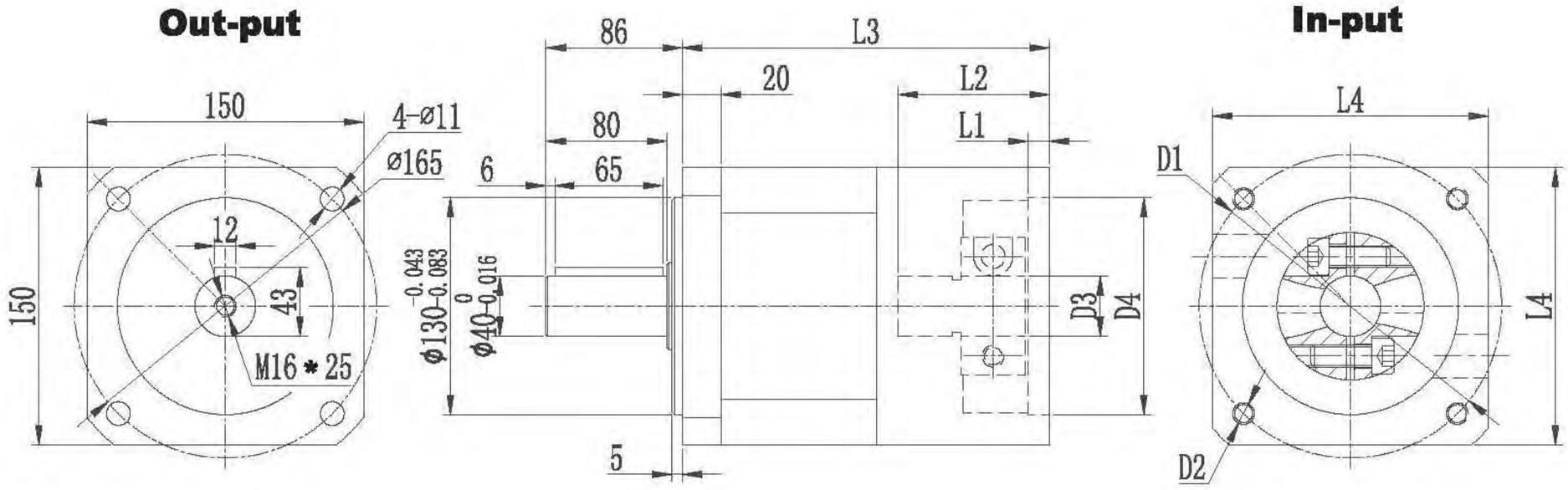

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.75KW | 90 | 4-M6 | ø19(F7) | 62 | ø70(F7) | 10 | 130 | 152 | 184 | 216 |
| 1KW/1.5KW | 145/130 | 4-M8 | ø22/24(F7) | 62 | ø110(F7) | 10 | 130 | 152 | 184 | 216 |

**Note:Above mentioned size based on standard product, we are accept any others change.**

# ZB142 Drawing Diemensions

## S2(Shaft with key-way)

**Out-put**

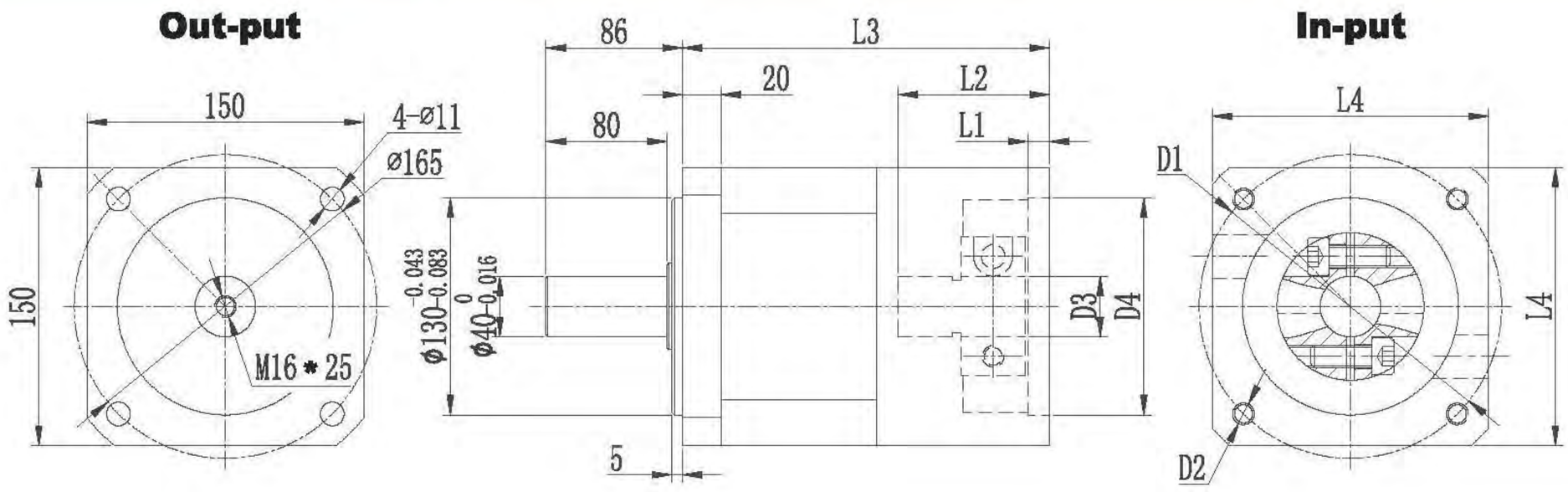



**In-put**




## S1 (Shaft)

**Out-put**

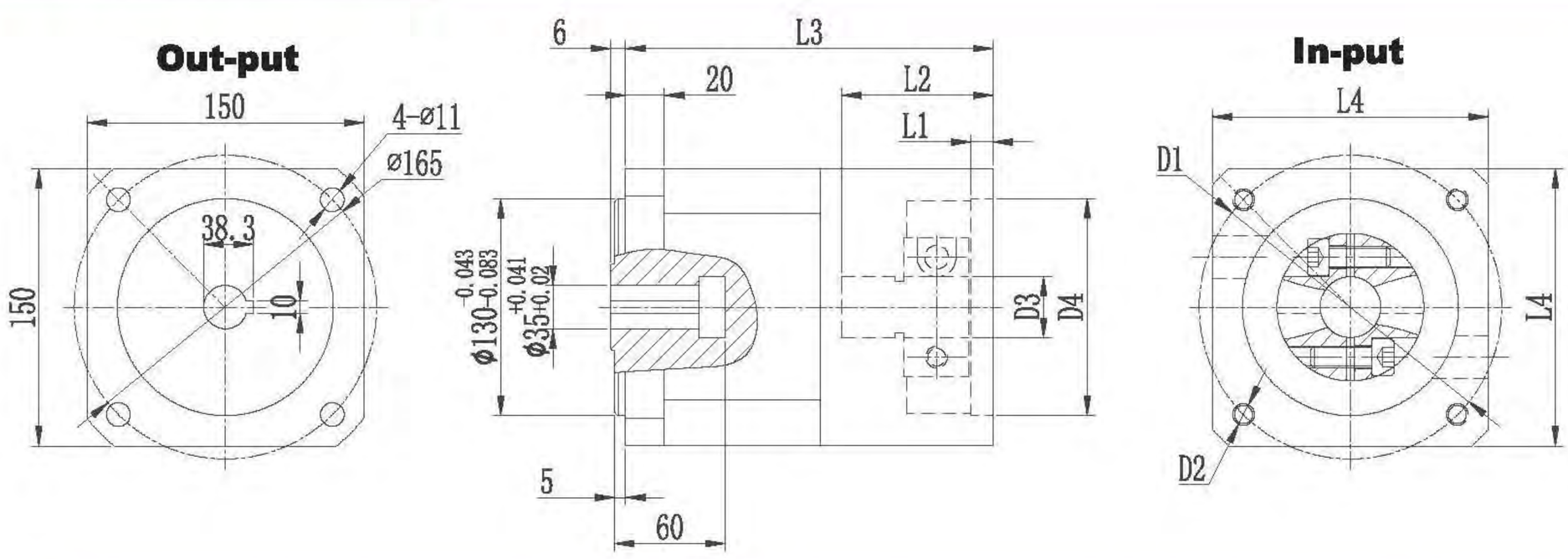



**In-put**




## S3 (Hollow Shaft)

**Out-put**




**In-put**

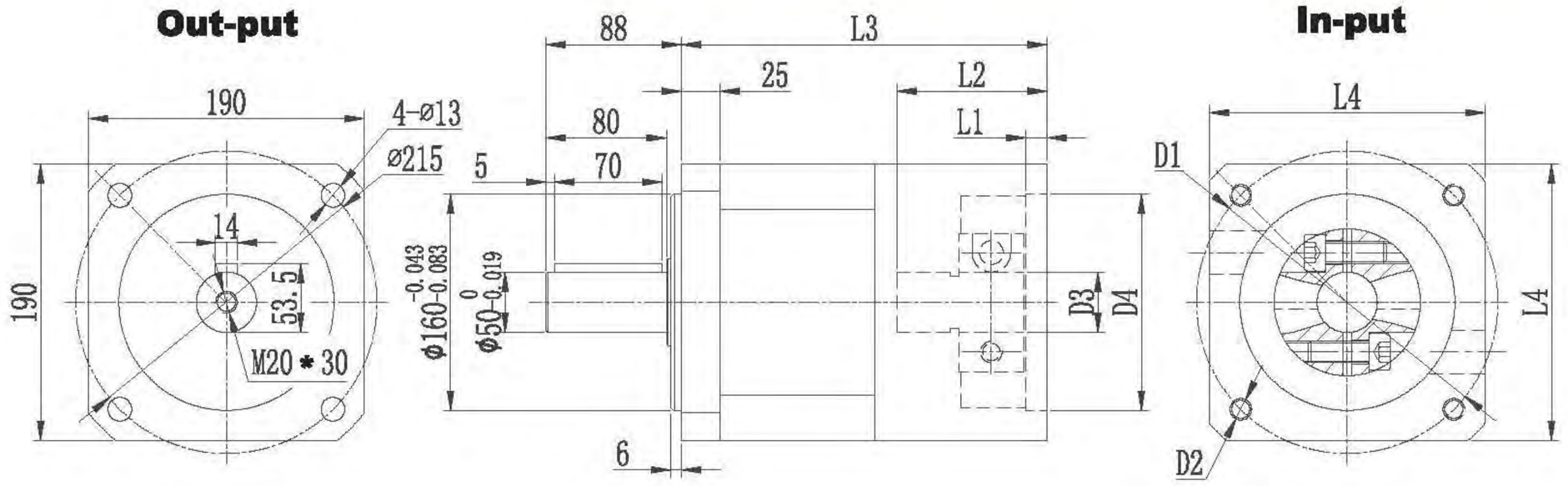



| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 2.0KW | 145 | 4-M8 | ϕ22(F7) | 62 | 110(F7) | 10 | 150 | 177 | 224 | 271 |
| 3.0/4.0KW | 200 | 4-M12 | ϕ35(F7) | 82 | 114.3(F7) | 10 | 180 | 197 | 244 | 291 |

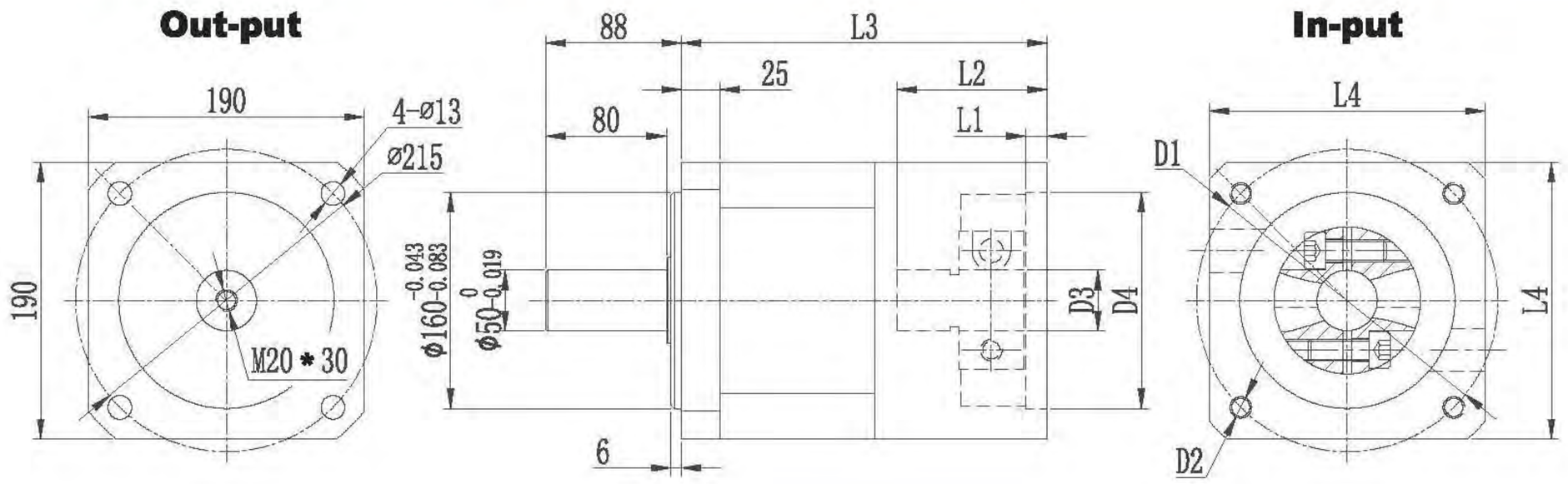
**Note:Above mentioned size based on standard product, we are accept any others change.**

# ZB190 Drawing Diemensions

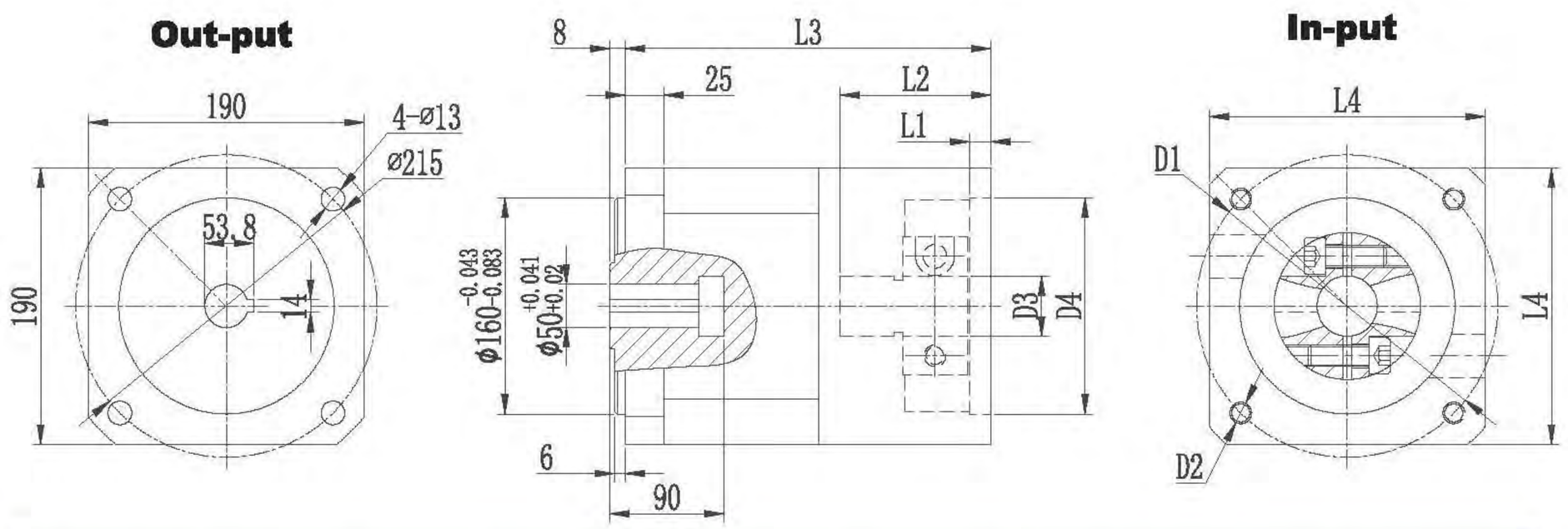
## S2(Shaft with key-way)




## S1 (Shaft)




## S3 (Hollow Shaft)



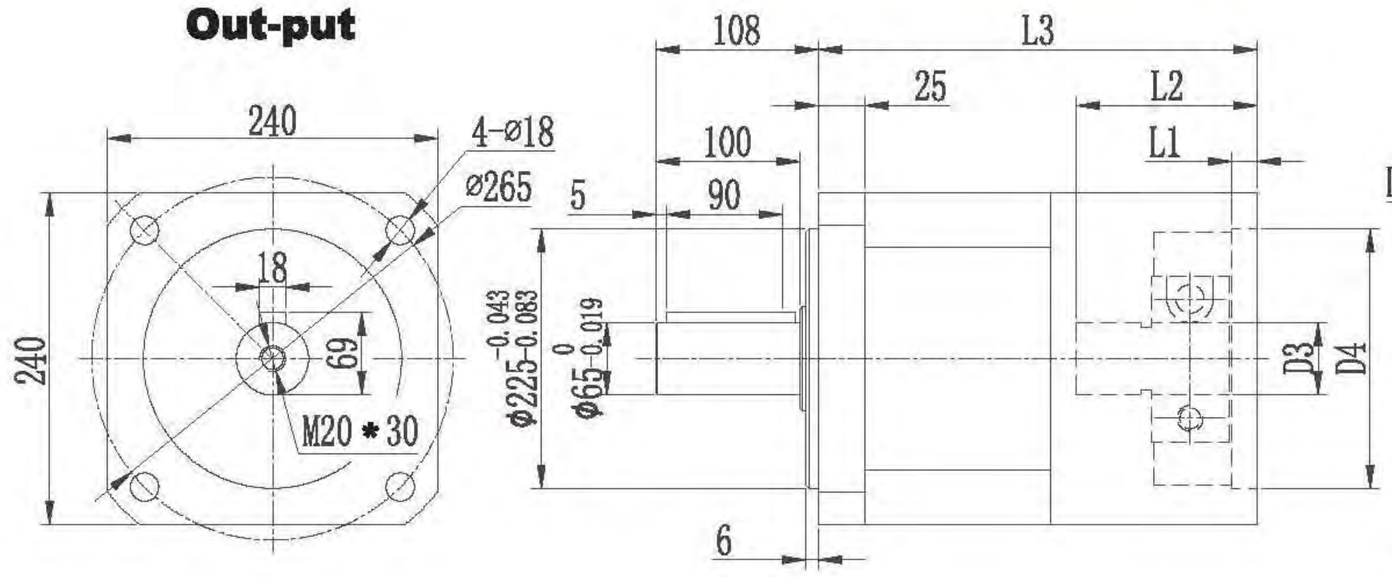

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 3.0KW | 200 | 4-M12 | ø35(F7) | 82 | 114.3(H7) | 10 | 190 | 220 | 273 | 295 |
| 4.0/5.0KW | 215 | 4-M12 | ø42(F7) | 115 | 180(H7) | 10 | 190 | 253 | 306 | 328 |
| 7.5KW | 235 | 4-M12 | ø55(F7) | 115 | 200(H7) | 10 | 220 | 253 | 306 | 328 |

**Note:Above mentioned size based on standard product, we are accept any others change.**

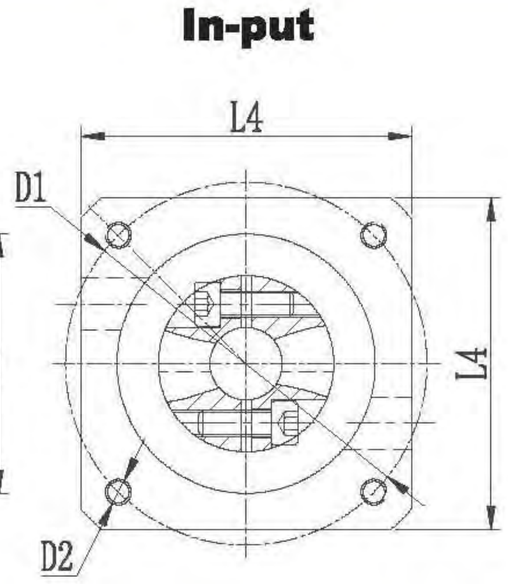
# ZB240 Drawing Diemensions

## S2(Shaft with key-way)

**Out-put**

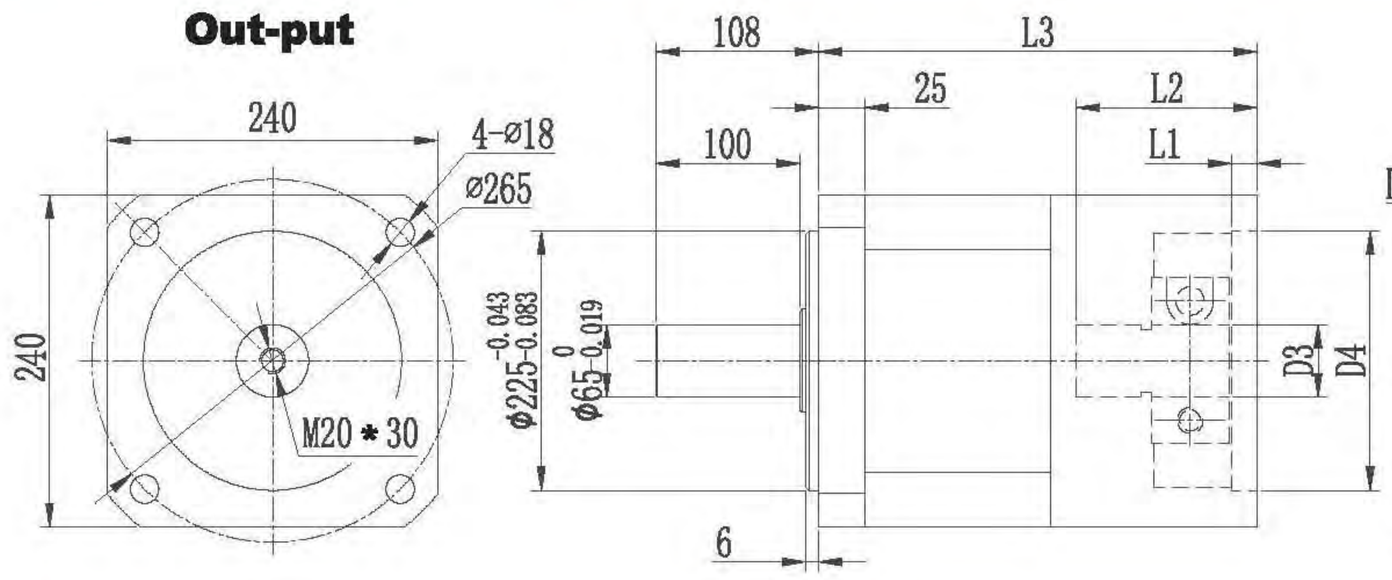



**In-put**

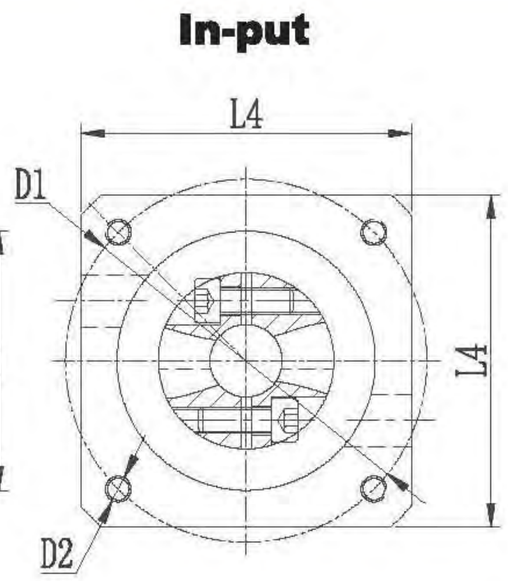



## S1 (Shaft)

**Out-put**

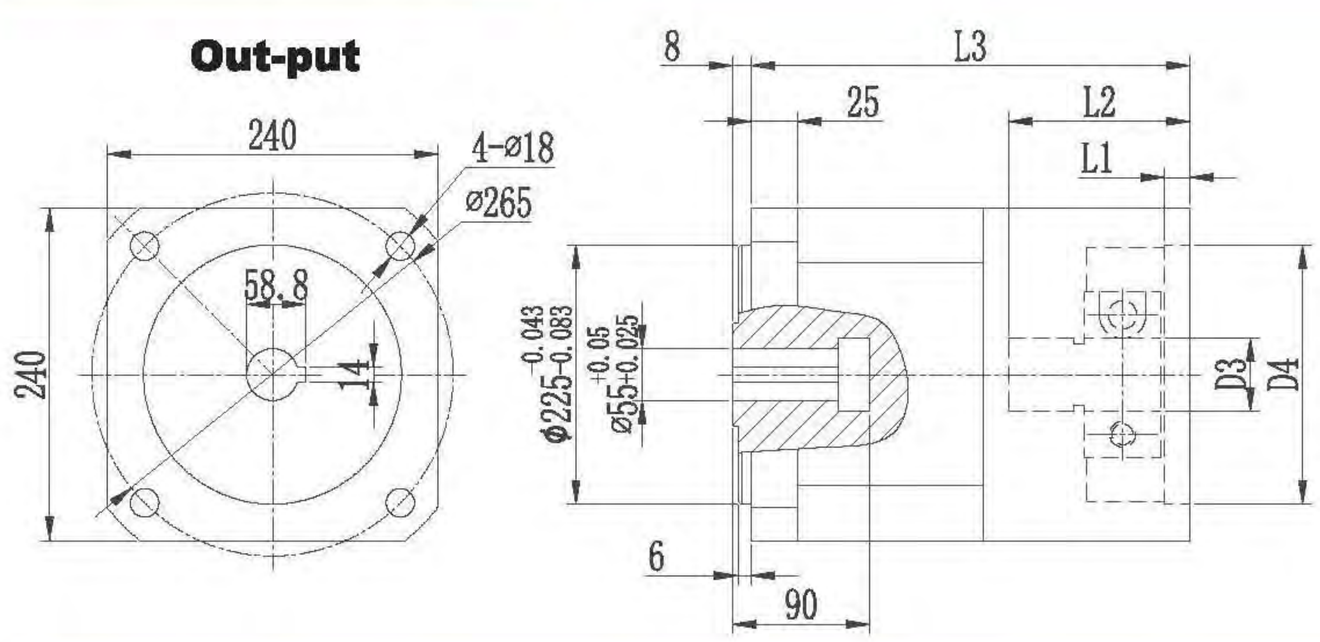



**In-put**

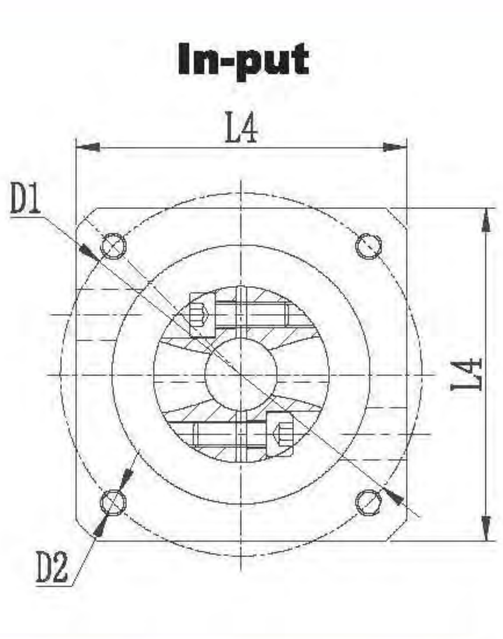



## S3 (Hollow Shaft)

**Out-put**




**In-put**




| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 3.0KW | 200 | 4-M12 | ϕ35(F7) | 82 | 114.3(H7) | 10 | 190 | 192 | 255 | 300 |
| 4.0/5.0KW | 215 | 4-M12 | ϕ42(F7) | 115 | 180(H7) | 10 | 190 | 222 | 285 | 330 |
| 7.5KW | 235 | 4-M12 | ϕ55(F7) | 115 | 200(H7) | 10 | 220 | 222 | 285 | 330 |
| 11KW | 265 | 4-M12 | ϕ55(F7) | 115 | 230(H7) | 10 | 250 | 222 | 285 | 330 |

**Note:Above mentioned size based on standard product, we are accept any others change.**

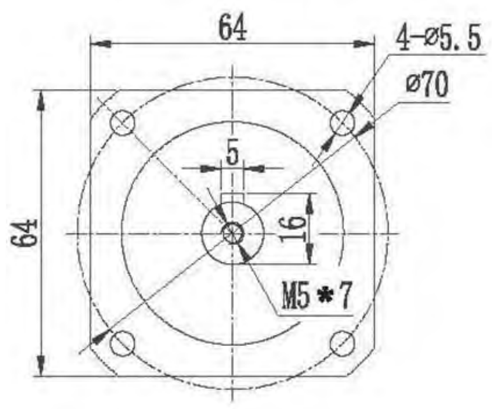
| ZBR SERIES TECHNICAL SPECIFICATIONS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Specification | Units | Stage | Ratio | ZBR60 | ZBR90 | ZBR115 | ZBR142 | ZBR190 | ZBR240 | ZBR285 | ZBR330 | ZBR400 |
| Rated Output Torque/$T_{2N}$ | NM | L1 | 3 | 25 | 50 | 140 | 310 | 1200 | 1900 | 3175 | 5043 | 7500 |
| | | | 4 | 42 | 120 | 260 | 800 | 1780 | 3710 | 6400 | 10000 | 17000 |
| | | | 5 | 40 | 110 | 240 | 680 | 1345 | 3000 | 5500 | 8800 | 16000 |
| | | | 7 | | | 105 | 470 | | | | | |
| | | | 8 | 18 | 55 | | | 850 | 1700 | 3200 | 5000 | 7500 |
| | | | 10 | 15 | 32 | 100 | 230 | 750 | 950 | 1600 | 3500 | 7600 |
| | | L2 | 9 | 42 | 50 | 140 | 340 | 1070 | 1830 | 3175 | 5043 | 7500 |
| | | | 12 | 41 | 50 | 200 | 680 | 1485 | 1836 | 6400 | 10000 | 17000 |
| | | | 15 | 41 | 50 | 200 | 680 | 1485 | 1836 | 5500 | 8800 | 16000 |
| | | | 16 | 42 | 110 | 260 | 800 | 2035 | 3710 | 6400 | 10000 | 17000 |
| | | | 20 | 42 | 110 | 260 | 800 | 2035 | 3710 | 6400 | 10000 | 17000 |
| | | | 25 | 40 | 100 | 240 | 680 | 1485 | 3000 | 5500 | 8800 | 16000 |
| | | | 28 | | | 235 | 800 | 2035 | 3710 | 6400 | 10000 | 17000 |
| | | | 30 | 25 | 65 | 235 | 680 | 2035 | 1900 | 5500 | 8800 | 16000 |
| | | | 32 | 45 | 125 | | | 2035 | 3710 | 6400 | 10000 | 17000 |
| | | | 35 | | | 140 | 590 | 1450 | 3000 | 5120 | 8500 | 12200 |
| | | | 40 | 42 | 100 | 260 | 680 | 1780 | 3710 | 5500 | 8800 | 16000 |
| | | | 50 | | | 120 | 500 | 1070 | 3000 | 5120 | 8500 | 12200 |
| | | | 64 | 18 | 55 | | | 850 | 1700 | 3200 | 5000 | 7500 |
| | | | 70 | | | 140 | 470 | | | | | |
| | | | 100 | | | 125 | 400 | 920 | 950 | 1820 | 3500 | 5000 |
| | | L3 | 60 | 45 | 125 | 260 | 800 | 1780 | 3700 | 6400 | 10000 | 17000 |
| | | | 64 | 42 | 120 | 260 | 800 | 2590 | 3710 | 6400 | 10000 | 17000 |
| | | | 80 | 45 | 110 | 260 | 800 | 2590 | 3710 | 6400 | 10000 | 17000 |
| | | | 100 | 45 | 110 | 260 | 800 | 2590 | 3710 | 6400 | 10000 | 17000 |
| | | | 120 | 40 | 110 | 260 | 800 | 2590 | 1900 | 6400 | 10000 | 17000 |
| | | | 125 | 41 | 110 | 230 | 700 | 1600 | 3100 | 5500 | 8800 | 16000 |
| | | | 140 | | | 260 | 800 | 2590 | 3710 | | | |
| | | | 150 | | | 260 | 800 | 2590 | 1900 | 5500 | 8800 | 16000 |
| | | | 160 | 45 | 120 | 260 | 800 | 2590 | 3700 | 6400 | 10000 | 17000 |
| | | | 200 | 40 | 90 | 230 | 800 | 1855 | 3710 | 5500 | 8800 | 17000 |
| | | | 250 | | | 200 | 680 | 2596 | 3000 | 5120 | 8500 | 12200 |
| | | | 256 | 45 | 125 | | | 1780 | 3000 | 6400 | 10000 | 17000 |
| | | | 320 | 41 | 110 | | | 1600 | 3100 | 5500 | 8800 | 16000 |
| | | | 350 | | | 112 | 515 | 1450 | 2270 | 5120 | 8500 | 12200 |
| | | | 400 | | | 112 | 515 | 1450 | 2270 | 5120 | 9800 | 16000 |
| | | | 500 | | | 112 | 515 | 1450 | 2270 | 5120 | 9800 | 16000 |
| | | | 512 | 18 | 55 | | | 850 | 1700 | 3200 | 5000 | 7500 |
| | | | 700 | | | 112 | 515 | | | | | |
| | | | 1000 | | | 112 | 400 | 730 | 1050 | 1820 | 3500 | 5000 |
| | | L4 | Above 4 Stages Please Contact Us | | | | | | | | | |
| Backlash (arcmin ) | | L1 | | ≤8 | ≤8 | ≤8 | ≤8 | ≤10 | ≤12 | ≤12 | ≤15 | ≤18 |
| | | L2 | | ≤10 | ≤10 | ≤10 | ≤10 | ≤12 | ≤14 | ≤15 | ≤18 | ≤20 |
| | | L3 | | ≤12 | ≤12 | ≤12 | ≤12 | ≤15 | ≤18 | ≤20 | ≤22 | ≤24 |
| Max.Radial Force | | N | | 265 | 450 | 1240 | 3700 | 6500 | 10500 | 15000 | 17000 | 26500 |
| Max.Axial Force | | N | | 200 | 420 | 1000 | 3500 | 5000 | 10000 | 12000 | 15000 | 20000 |
| Emergency Stop Torque | | NM | | 2 Times Rated Torque | | | | | | | | |
| Effiency ( η ) | | L1 | | 96% | | | | | | | | |
| | | L2 | | 94% | | | | | | | | |
| | | L3 | | 90% | | | | | | | | |
| Rated Input Speed(rpm) | | | | 3000 | 3000 | 3000 | 2000 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Max.Input Speed(rpm) | | | | 7000 | 6000 | 5000 | 3500 | 3000 | 2500 | 2000 | 2000 | 2000 |
| GWT ( kg ) | | L1 | | 1.3 | 3.6 | 9.25 | 20 | 31 | 70 | 113 | 145 | 250 |
| | | L2 | | 1.5 | 4.2 | 11.5 | 25 | 42 | 88 | 136 | 190 | 340 |
| | | L3 | | 1.8 | 4.8 | 13.5 | 30 | 50 | 96 | 140 | 215 | 360 |
| Service Life | | h | | 20000 Hrs | | | | | | | | |
| Noise | | dB | | ≤68 | ≤68 | ≤68 | ≤70 | ≤70 | ≤70 | ≤75 | ≤80 | ≤80 |
| Lubrication | | | | Whole-life Free Service(Synthetic Complex Soap Grease) | | | | | | | | |
| Operating Temperature | | | | '-10℃-+90℃ ( Beyond Temperature Please Contact Us ) | | | | | | | | |
| Mounting | | | | Any Position | | | | | | | | |
| Protect Class | | | | IP65 | | | | | | | | |

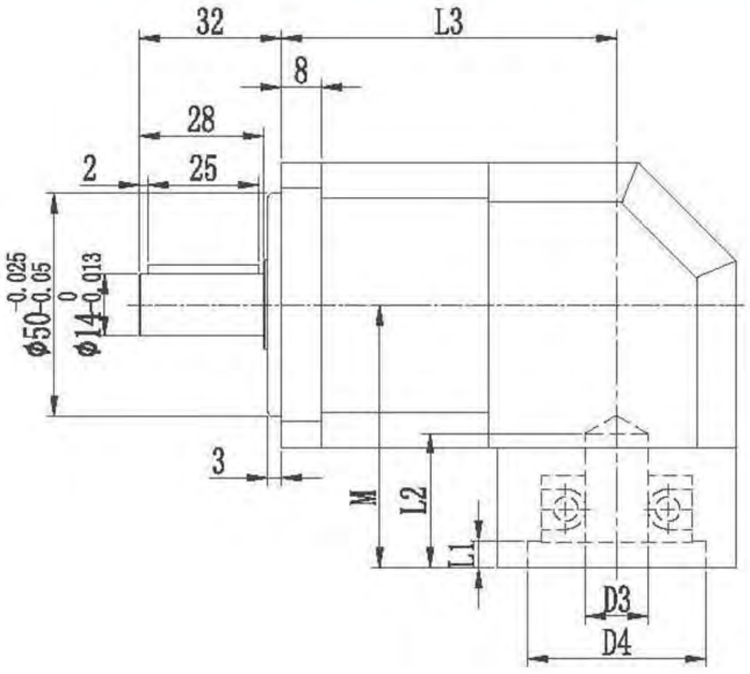
1. About L1 specifications major are measured on 5 : 1 gear ratio.
2. Ratios; ( I = Nin /Out )
3. Backlash : Measured on 2% of nominal output torque.
4. Max. Radial and Axial Load; Applied to the output shaft center, and 50% of duty time,and at 100rpm.
5. Duty Cycle < 60%, Average Lifetime = List value; Duty Cycle >= 60%, Average Lifetime < 50% List value.
6. Noise Level; Distance 1m, and measured on idle running, and at nominal input speed.

# ZBR 60 Drawing Diemensions

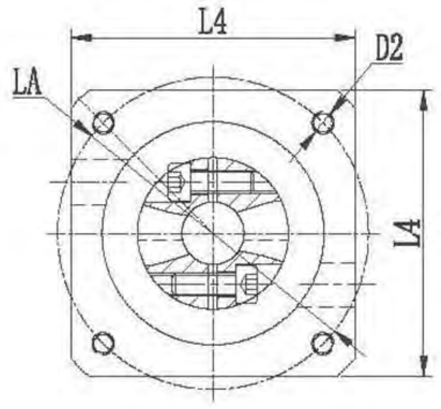
## S2(Shaft with key-way)

**Out-put**



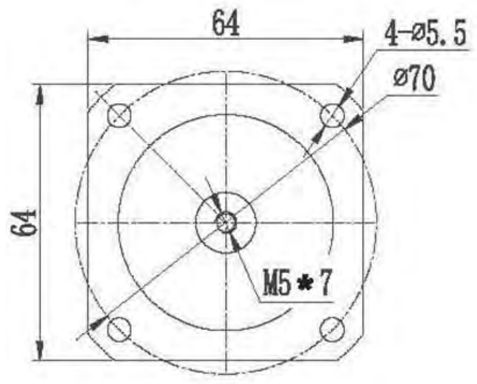



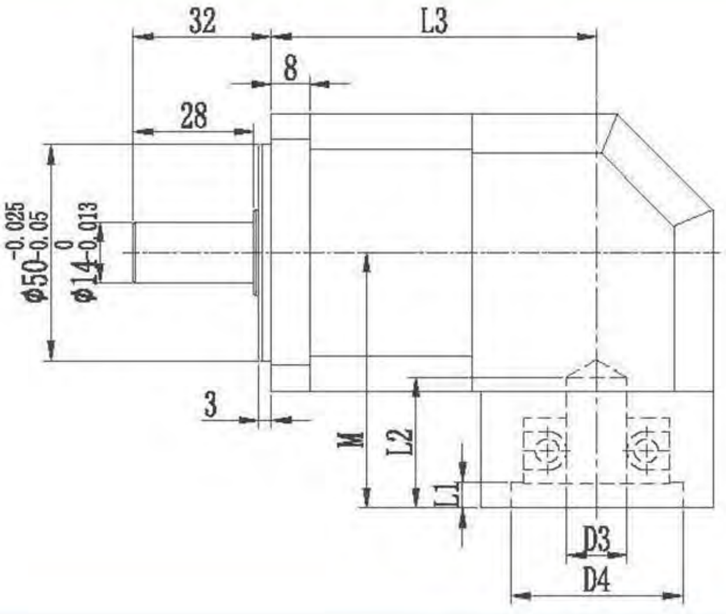

**In-put**



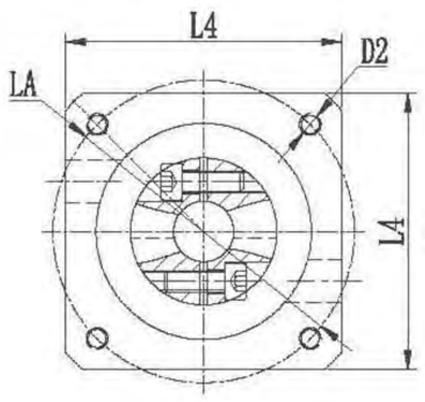

## S1 (Shaft)

**Out-put**



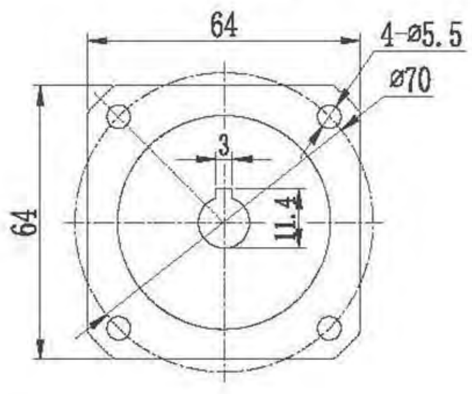



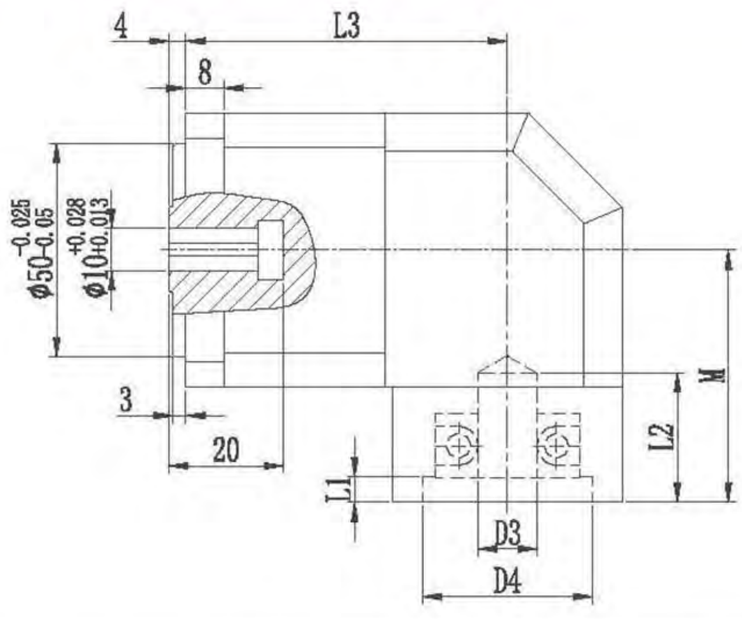

**In-put**



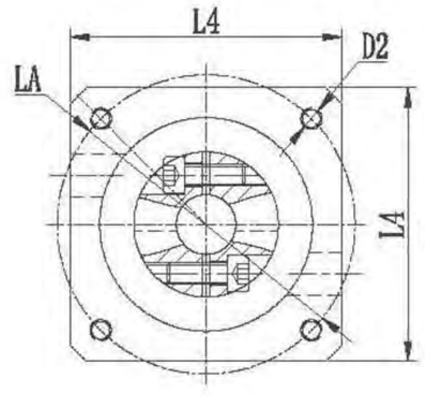

## S3 (Hollow Shaft)

**Out-put**




**In-put**



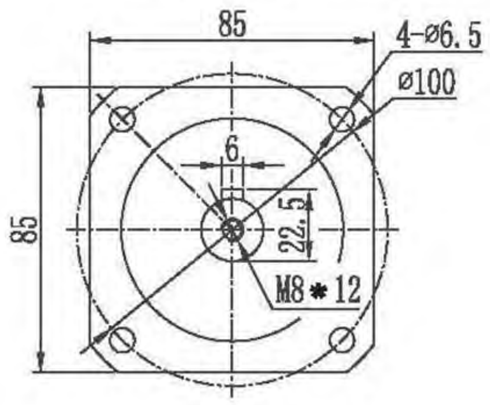

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.2KW | 70 | 4-M4/M5 | ø11(F7) | 35 | ø50(H7) | 5 | 64 | 72 | 96 | 114 | 131 |
| 0.4KW | 70 | 4-M4/M5 | ø14(F7) | 35 | ø50(H7) | 5 | 64 | 72 | 96 | 114 | 131 |

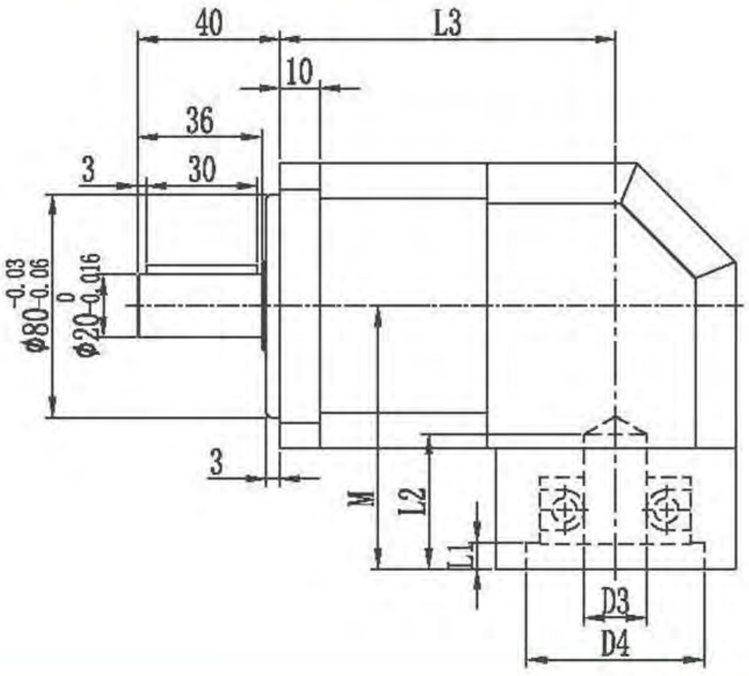
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZBR 90 Drawing Diemensions

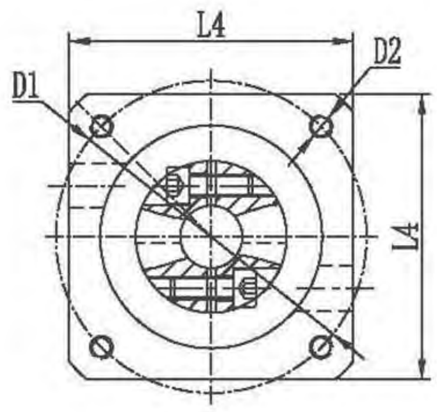
## S2(Shaft with key-way)

**Out-put**



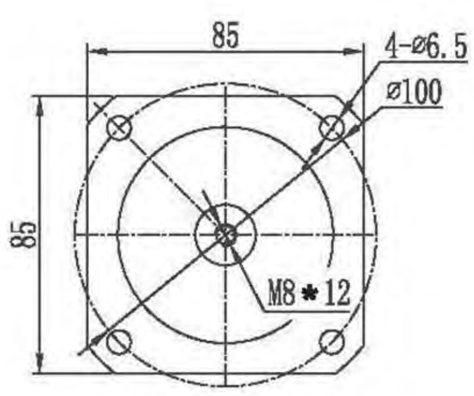



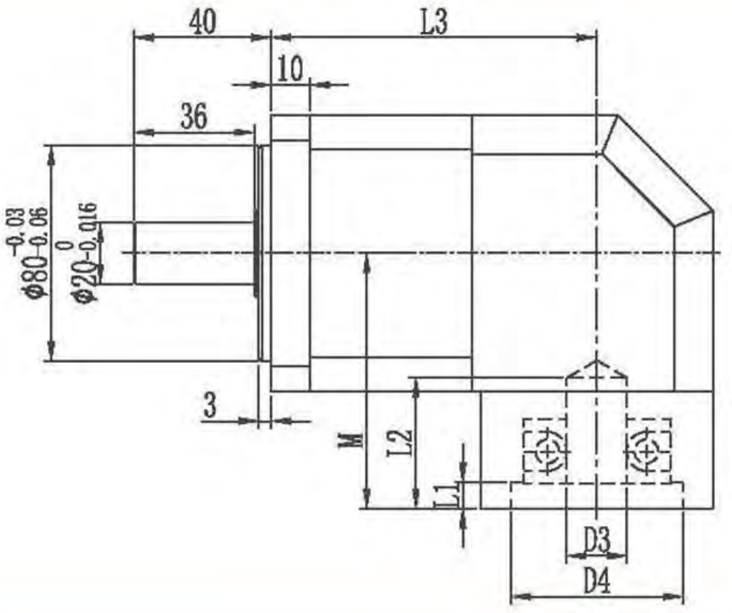

**In-put**



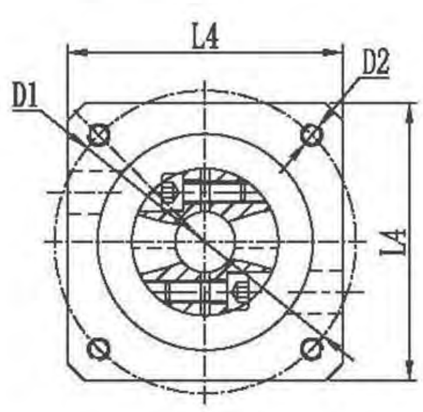

## S1 (Shaft)

**Out-put**



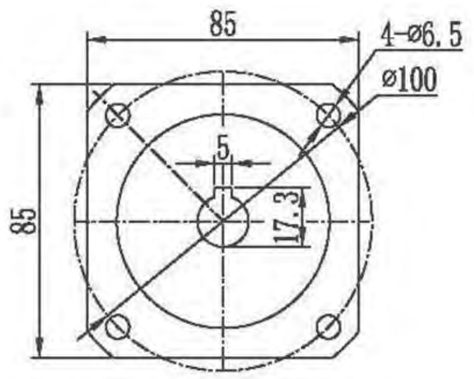



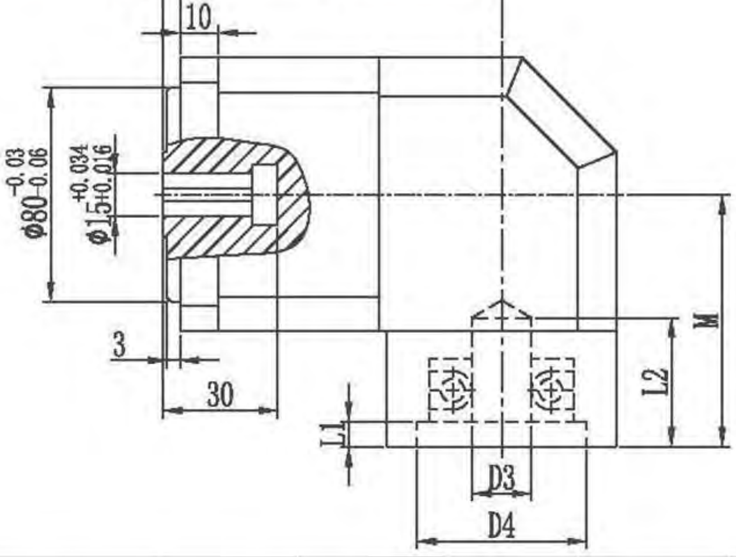

**In-put**



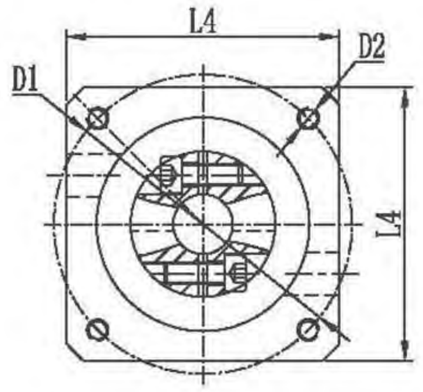

## S3 (Hollow Shaft)

**Out-put**




**In-put**



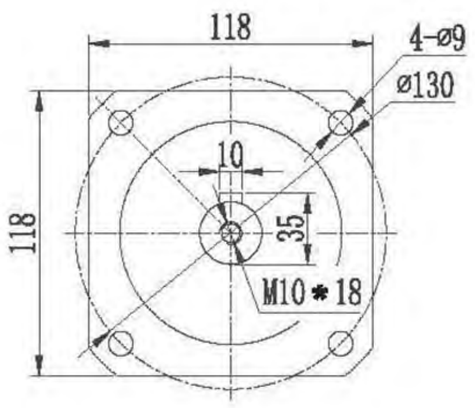

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.4KW | 70 | 4-M4/M5 | ϕ14(F7) | 35 | 50(H7) | 5 | 90 | 143 | 119 | 137 | 155 |
| 0.75KW | 90 | 4-M5/M6 | ϕ19(F7) | 35 | 70(H7) | 5 | 90 | 143 | 119 | 137 | 155 |

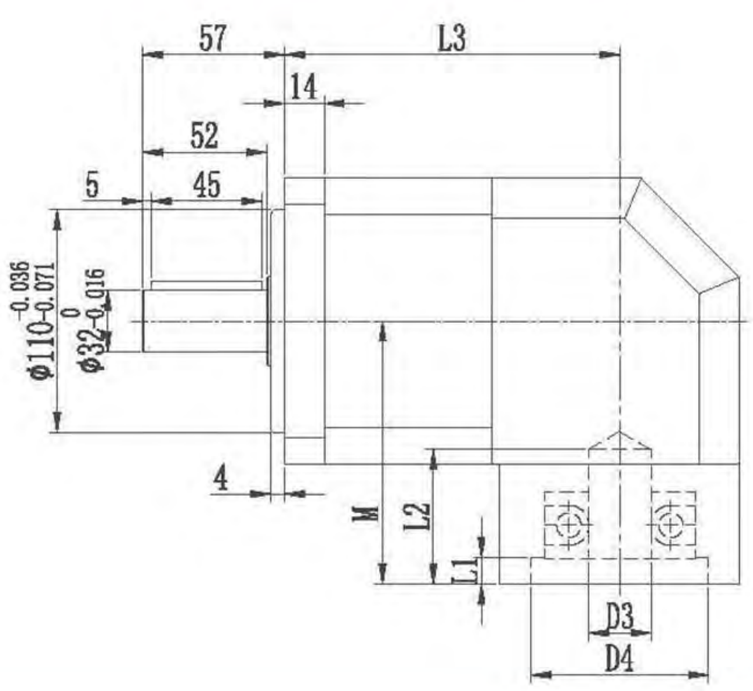
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZBR 115 Drawing Diemensions

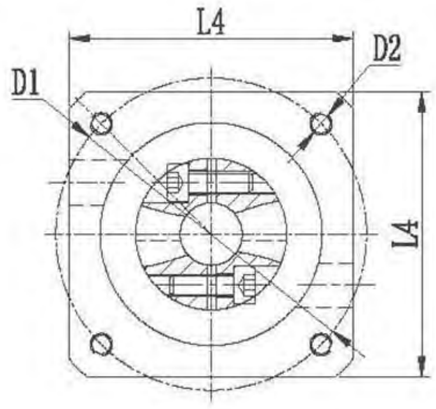
## S2(Shaft with key-way)

**Out-put**



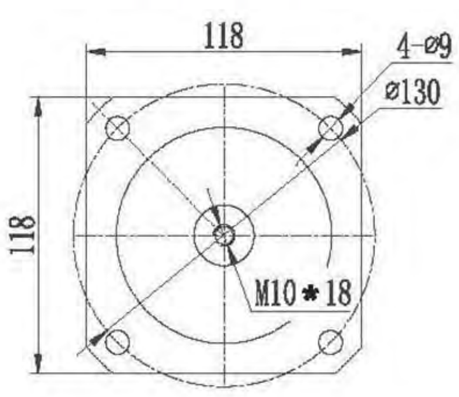



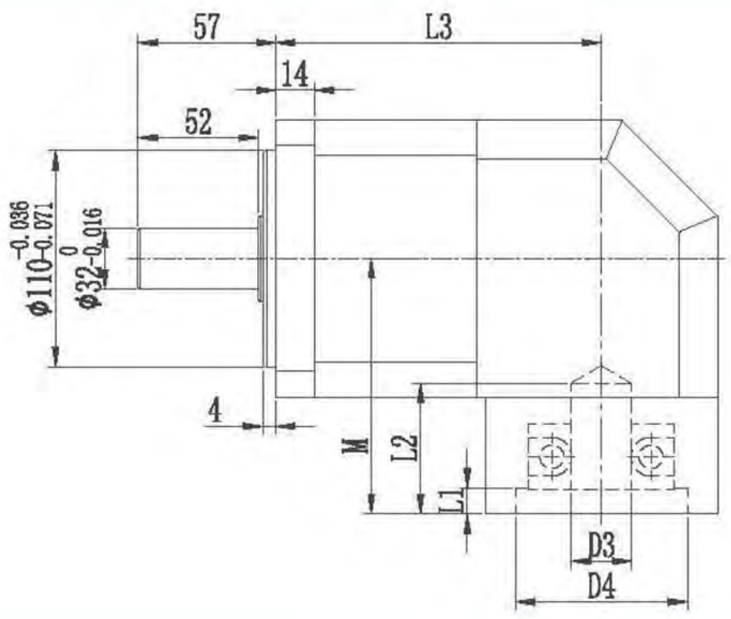

**In-put**



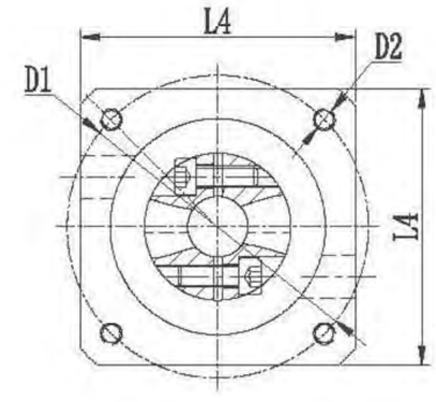

## S1 (Shaft)

**Out-put**



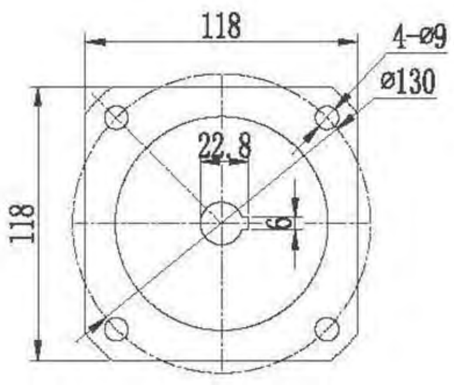



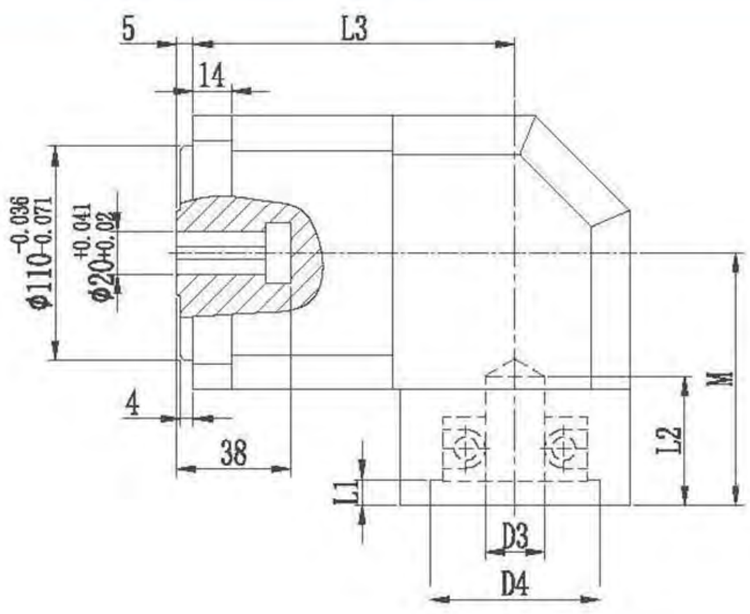

**In-put**



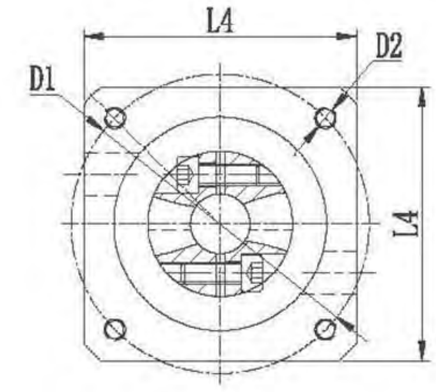

## S3 (Hollow Shaft)

**Out-put**




**In-put**



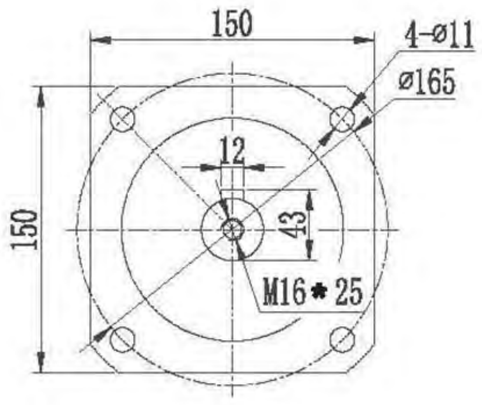

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.75KW | 90 | 4-M6 | ø19(F7) | 54 | ø70(H7) | 10 | 130 | 114 | 151 | 183 | 215 |
| 1KW/1.5KW | 145/130 | 4-M8 | ø22/24(F7) | 64 | ø110(H7) | 10 | 130 | 124 | 151 | 183 | 215 |

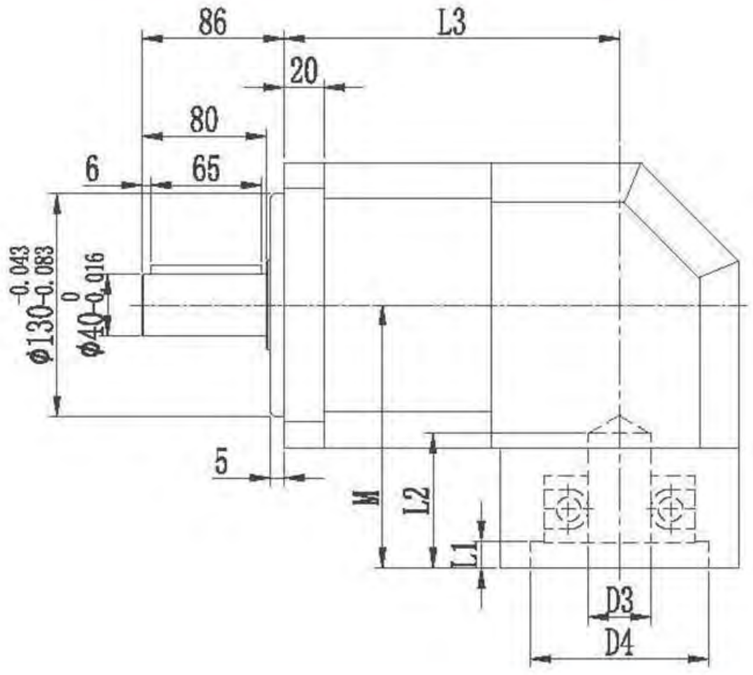
**Note:Above mentioned size based on standard product, we are accept any others change.**

# ZBR 142 Drawing Diemensions

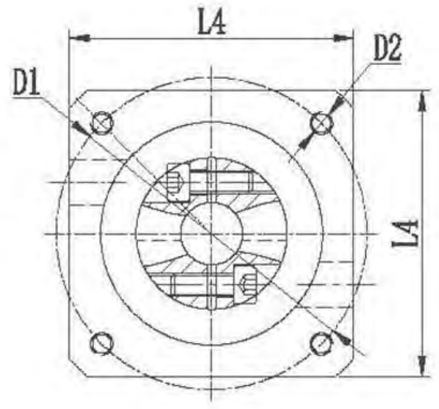
## S2(Shaft with key-way)

**Out-put**



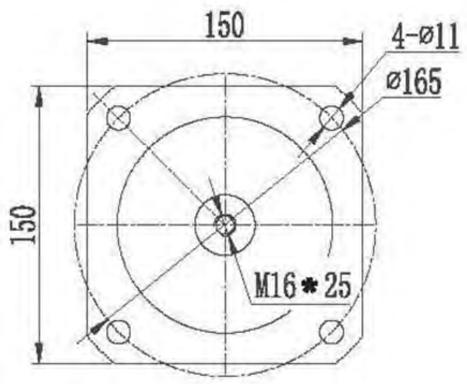



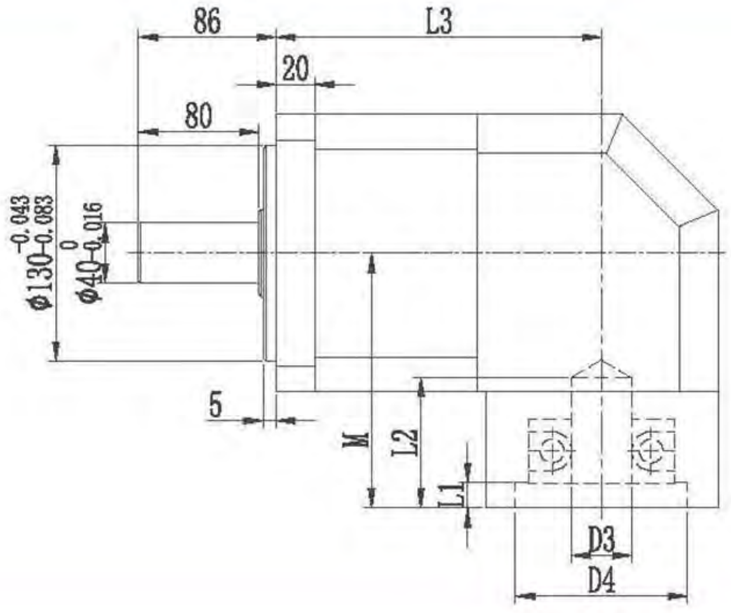

**In-put**



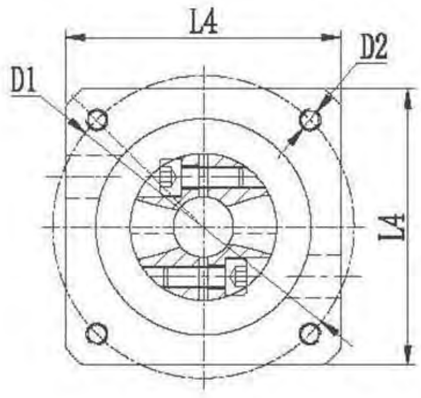

## S1 (Shaft)

**Out-put**



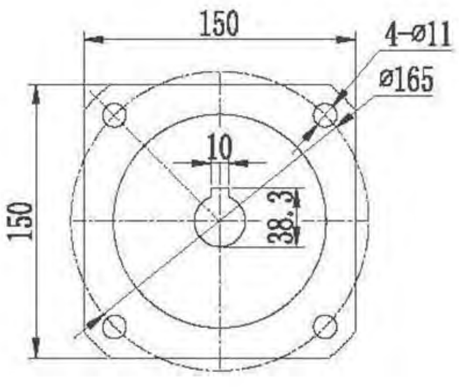



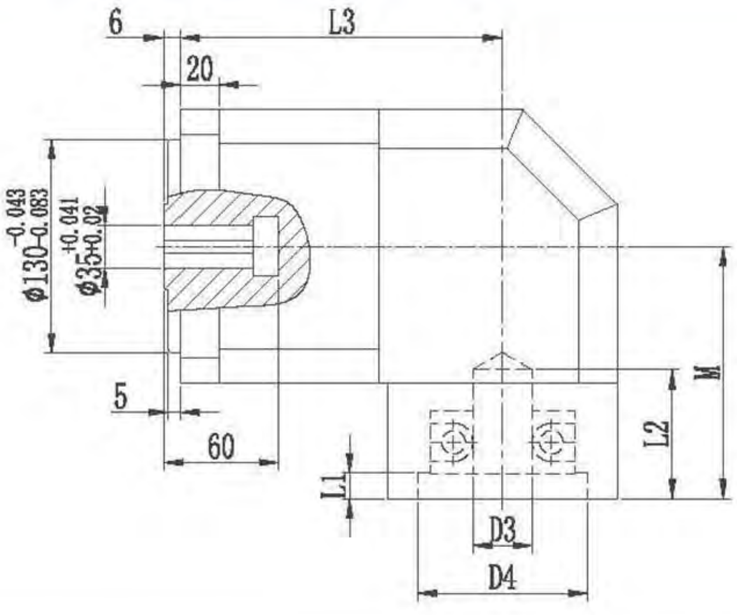

**In-put**



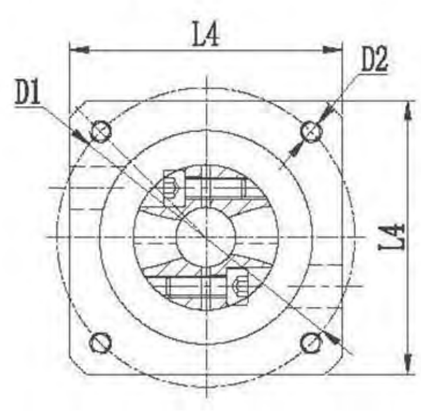

## S3 (Hollow Shaft)

**Out-put**




**In-put**



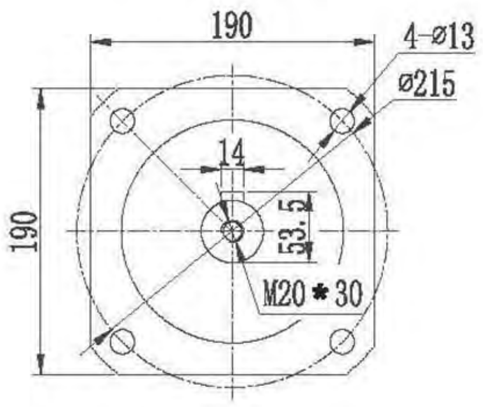

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.0KW | 145 | 4-M8 | φ22(F7) | 62 | 110(H7) | 10 | 150 | 150 | 198 | 245 | 292 |
| 3.0/4KW | 200 | 4-M12 | φ35(F7) | 82 | 114.3(H7) | 10 | 180 | 160 | 198 | 245 | 292 |

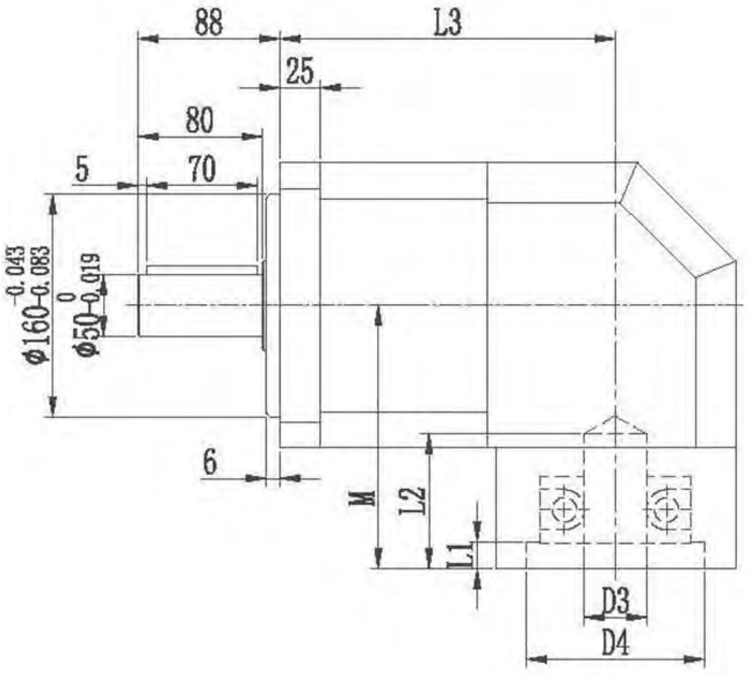
**Note:Above mentioned size based on standard product, we are accept any others change.**

# ZBR 190 Drawing Diemensions

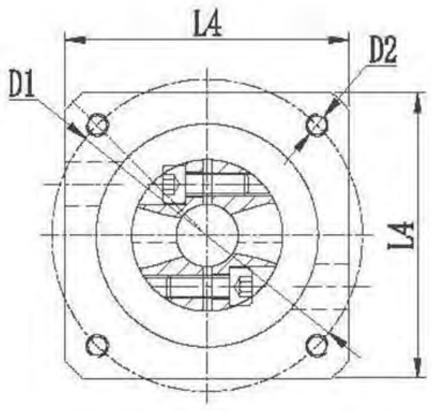
## S2(Shaft with key-way)

**Out-put**



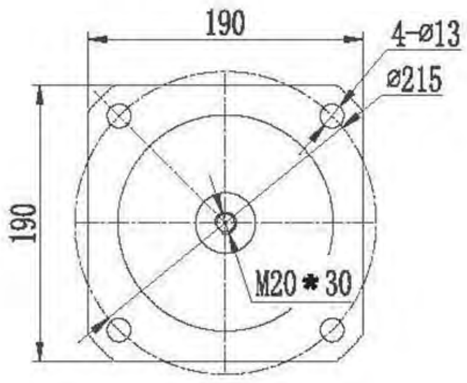



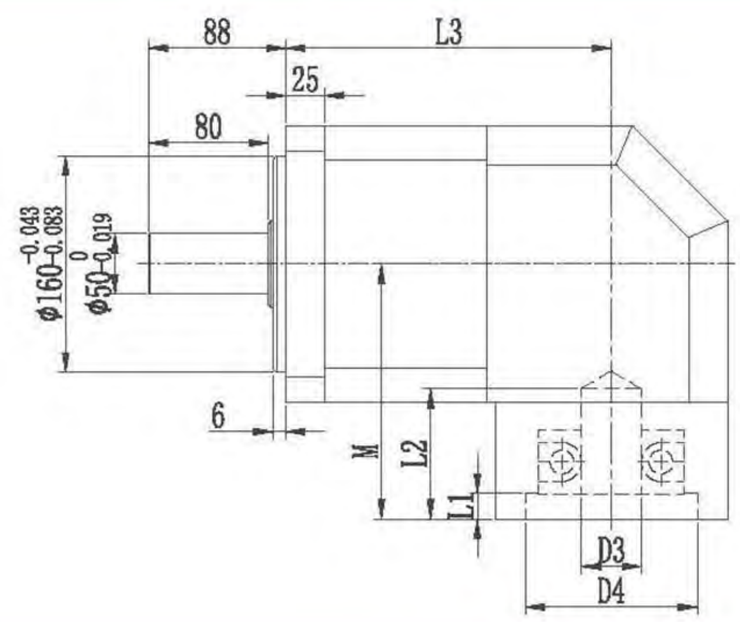

**In-put**



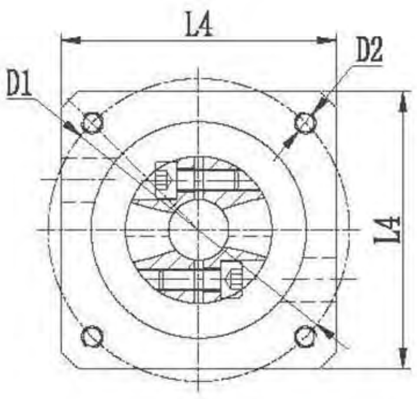

## S1 (Shaft)

**Out-put**



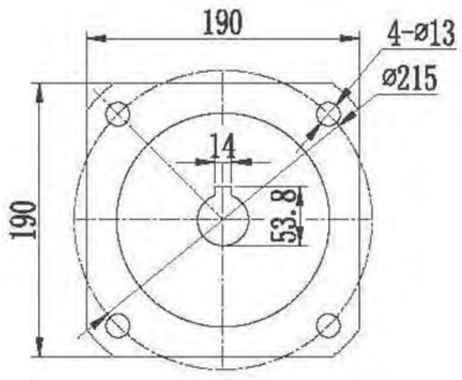



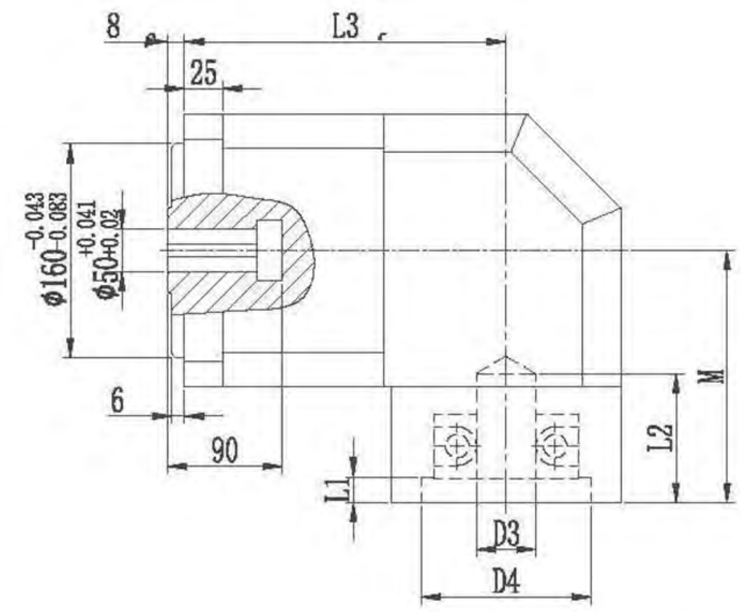

**In-put**



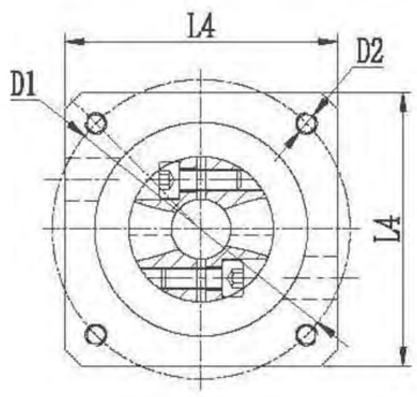

## S3 (Hollow Shaft)

**Out-put**




**In-put**



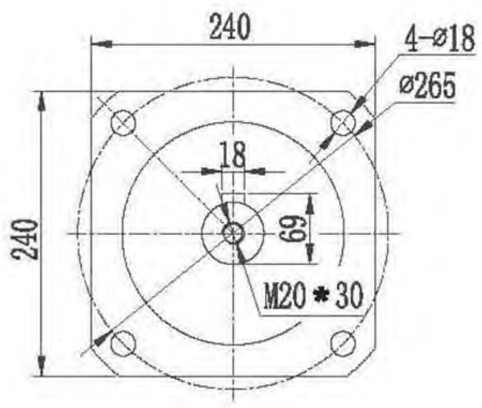

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.0KW | 200 | 4-M12 | ϕ35(F7) | 82 | 114.3(H7) | 10 | 190 | 134 | 206 | 235 | 280 |
| 4.0/5.0KW | 215 | 4-M12 | ϕ42(F7) | 115 | 180(H7) | 10 | 190 | 164 | 206 | 235 | 280 |
| 7.5KW | 235 | 4-M12 | ϕ55(F7) | 115 | 200(H7) | 10 | 220 | 164 | 206 | 235 | 280 |

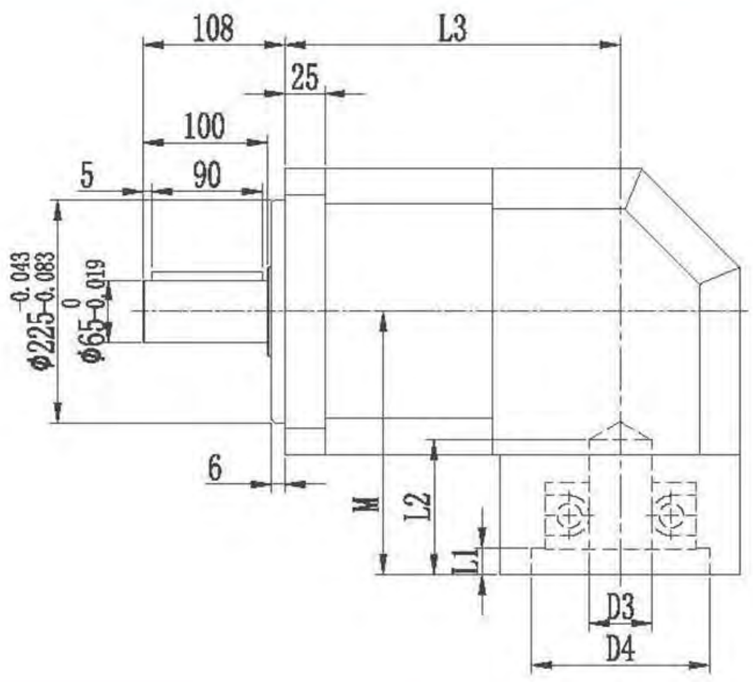
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZBR 240 Drawing Diemensions

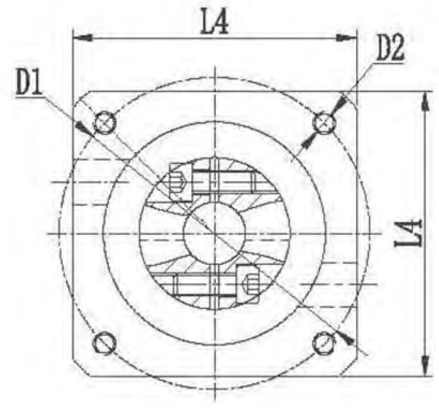
## S2(Shaft with key-way)

### Out-put



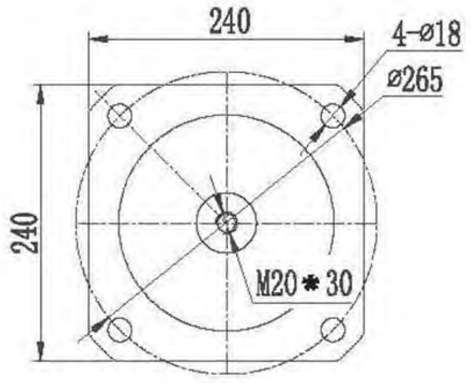



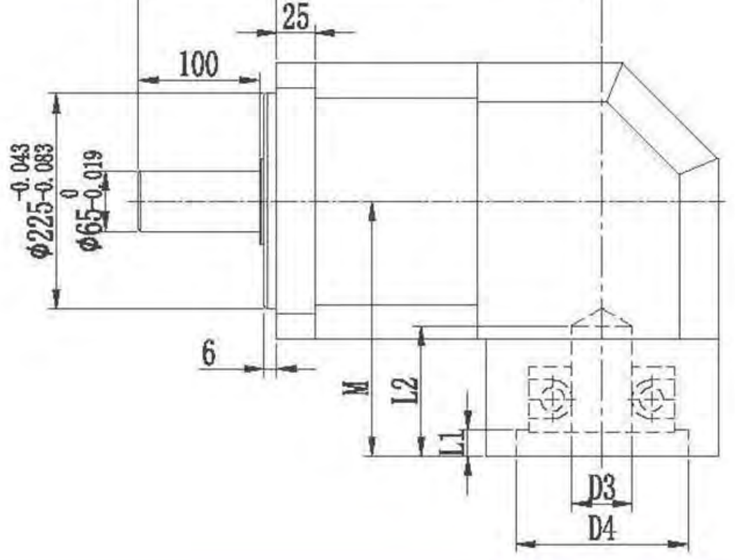

### In-put



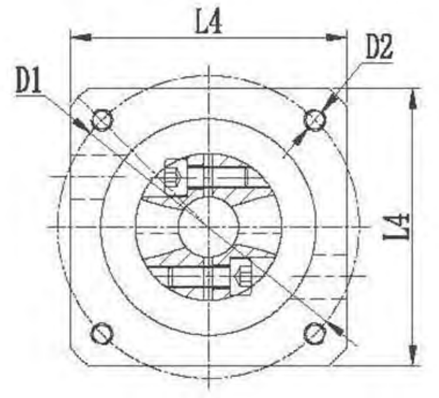

## S1 (Shaft)

### Out-put



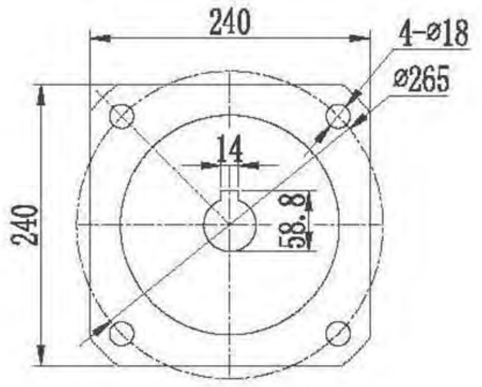



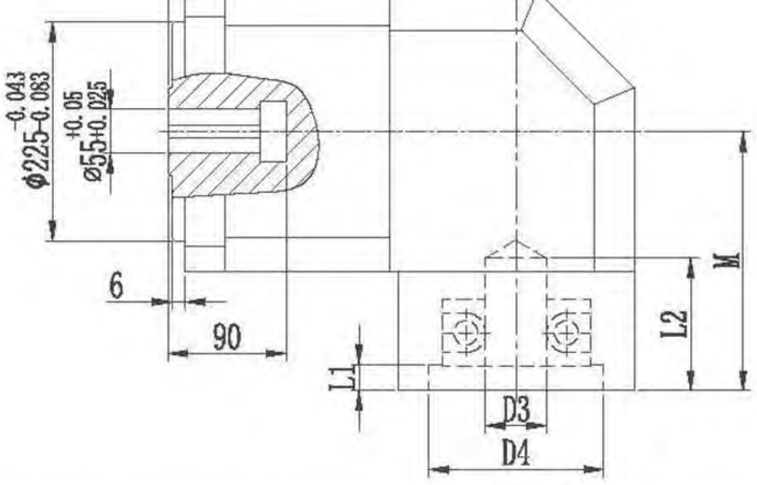

### In-put



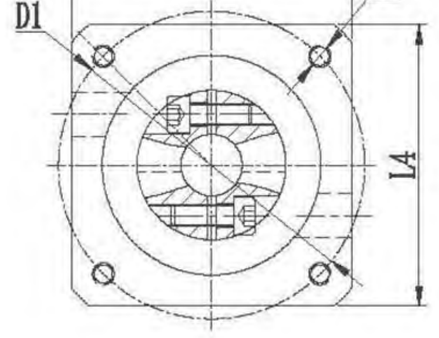

## S3 (Hollow Shaft)

### Out-put




### In-put




| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.0KW | 200 | 4-M12 | ϕ35(F7) | 82 | 114.3(H7) | 10 | 190 | 134 | 258 | 287 | 332 |
| 4.0/5.0KW | 215 | 4-M12 | ϕ42(F7) | 115 | 180(H7) | 10 | 190 | 164 | 258 | 287 | 332 |
| 7.5KW | 235 | 4-M12 | ϕ55(F7) | 115 | 200(H7) | 10 | 220 | 164 | 258 | 287 | 332 |
| 11KW | 265 | 4-M12 | ϕ55(F7) | 115 | 230(H7) | 10 | 250 | 164 | 258 | 287 | 332 |

**Note:Above mentioned size based on standard product, we are accept any others change.**

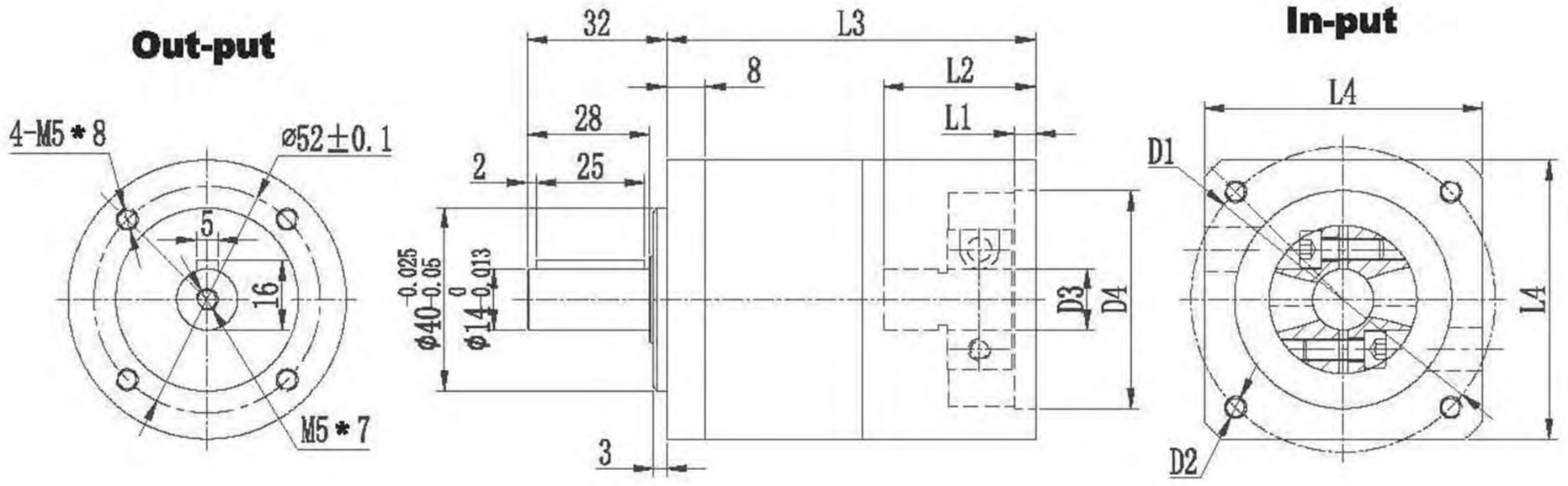
## ZE SERIES TECHNICAL SPECIFICATIONS

| Specification | Units | Stage | Ratio | ZE60 | ZE80 | ZE120 | ZE160 |
|---|---|---|---|---|---|---|---|
| Rated Output Torque/T2N | NM | L1 | 3 | 25 | 50 | 140 | 310 |
| | | | 4 | 42 | 120 | 260 | 800 |
| | | | 5 | 40 | 110 | 240 | 680 |
| | | | 7 | | | 105 | 470 |
| | | | 8 | 18 | 40 | | |
| | | | 10 | 12 | 20 | 100 | 200 |
| | | L2 | 9 | 42 | 50 | 140 | 340 |
| | | | 12 | 40 | 50 | 200 | 680 |
| | | | 15 | 40 | 50 | 200 | 680 |
| | | | 16 | 42 | 110 | 260 | 800 |
| | | | 20 | 42 | 110 | 260 | 800 |
| | | | 25 | 40 | 100 | 240 | 680 |
| | | | 28 | | | 235 | 800 |
| | | | 30 | 25 | 65 | 235 | 680 |
| | | | 32 | 45 | 125 | | |
| | | | 35 | 40 | | 140 | 590 |
| | | | 40 | 42 | 100 | 260 | 680 |
| | | | 50 | 23 | | 112 | 340 |
| | | | 64 | 18 | 50 | | |
| | | | 70 | | | 105 | 470 |
| | | | 100 | | | 105 | 200 |
| | | L3 | 60 | 45 | 110 | 260 | 800 |
| | | | 64 | 42 | 120 | 260 | 800 |
| | | | 80 | 42 | 110 | 260 | 680 |
| | | | 100 | 42 | 110 | 260 | 800 |
| | | | 120 | 40 | 110 | 260 | 800 |
| | | | 125 | 23 | 110 | 230 | 700 |
| | | | 140 | 25 | | 260 | 800 |
| | | | 150 | 23 | 110 | 260 | 800 |
| | | | 160 | 45 | 120 | 260 | 800 |
| | | | 200 | 40 | 90 | 230 | 800 |
| | | | 250 | 42 | 110 | 200 | 680 |
| | | | 256 | 45 | 125 | | |
| | | | 320 | 41 | 110 | | |
| | | | 350 | | | 112 | 515 |
| | | | 400 | | 90 | 112 | 515 |
| | | | 500 | | 90 | 112 | 515 |
| | | | 512 | 18 | 55 | | |
| | | | 700 | | | 112 | 515 |
| | | | 1000 | | | 112 | 200 |
| | | L4 | Above 4 Stages Please Contact Us | | | | |
| Backlash (arcmin ) | | L1 | | ≤10 | ≤10 | ≤10 | ≤10 |
| | | L2 | | ≤12 | ≤12 | ≤12 | ≤12 |
| | | L3 | | ≤15 | ≤15 | ≤15 | ≤15 |
| Max.Radial Force | | N | | 265 | 400 | 1240 | 3700 |
| Max.Axial Force | | N | | 200 | 420 | 1000 | 3500 |
| Emergency Stop Torque | | NM | | 2 Times Rated Torque | | | |
| Effiency ( η ) | | L1 | | 96% | | | |
| | | L2 | | 94% | | | |
| | | L3 | | 90% | | | |
| Rated Input Speed(rpm) | | | | 3500 | 3500 | 3000 | 2000 |
| Max.Input Speed(rpm) | | | | 7000 | 6000 | 5000 | 3500 |
| GWT ( kg ) | | L1 | | 1.1 | 2.1 | 8 | 18 |
| | | L2 | | 1.3 | 2.5 | 9.5 | 23 |
| | | L3 | | 1.5 | 3.1 | 11.5 | 30 |
| Service Life | | h | | 20000 Hrs | | | |
| Noise | | dB | | ≤58 | ≤62 | ≤65 | ≤65 |
| Lubrication | | | | Whole-life Free Service(Synthetic Complex Soap Grease) | | | |
| Operating Temperature | | | | -10℃-+90℃ ( Beyond Temperature Please Contact Us ) | | | |
| Mounting | | | | Any Position | | | |
| Protect Class | | | | IP65 | | | |

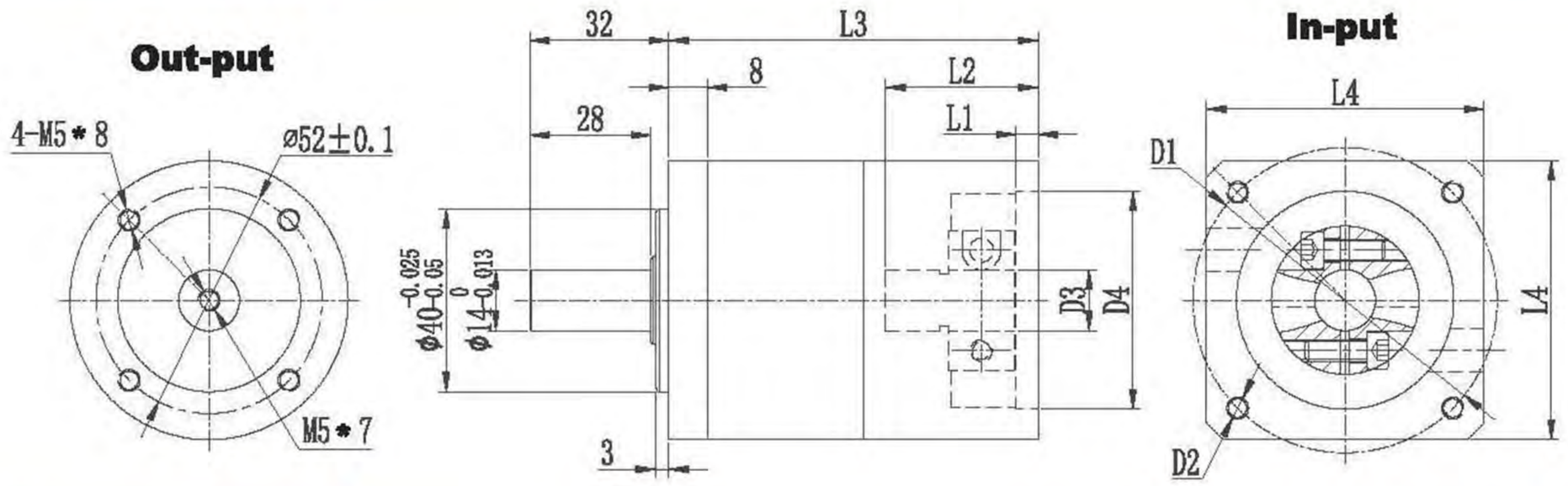
1. About L1 specifications major are measured on 5 : 1 gear ratio.
2. Ratios; ( i = Nin /Out )
3. Backlash : Measured on 2% of nominal output torque.
4. Max. Radial and Axial Load; Applied to the output shaft center, and 50% of duty time,and at 100rpm.
5. Duty Cycle < 60%, Average Lifetime = List value; Duty Cycle >= 60%, Average Lifetime < 50% List value.
6. Noise Level; Distance 1m, and measured on idle running, and at nominal input speed.

# ZE 60 Drawing Diemensions

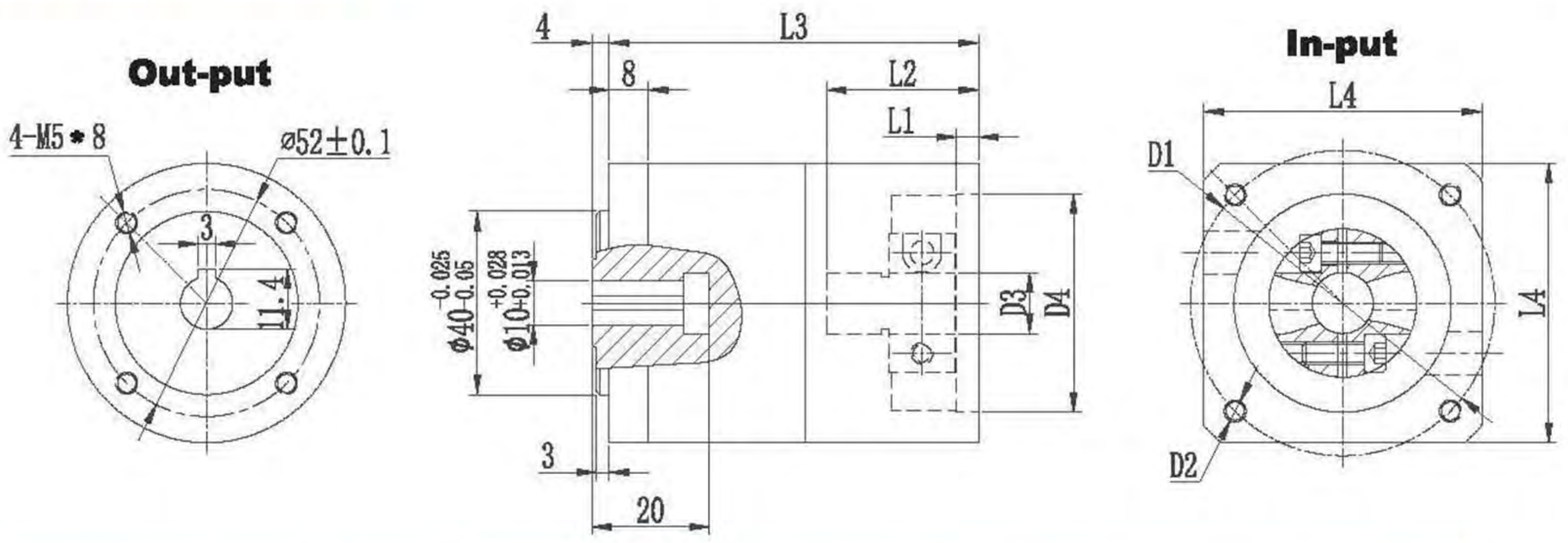
## S2(Shaft with key-way)




## S1 (Shaft)




## S3 (Hollow Shaft)

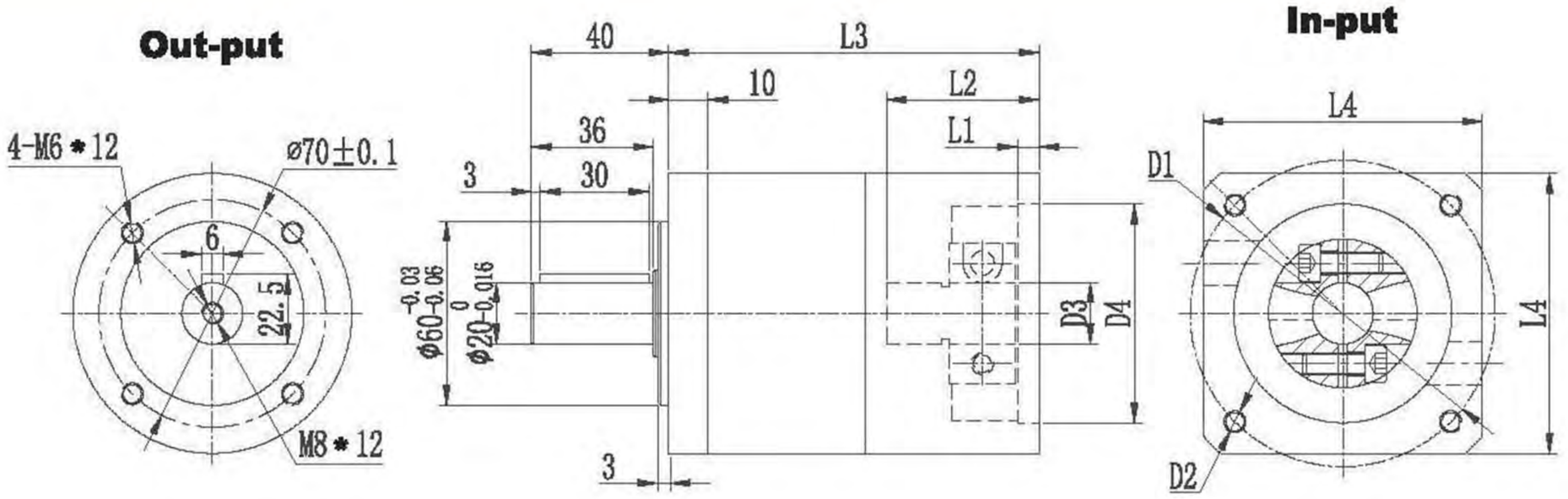



| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.2KW | 70 | 4-M4/M5 | ø11(F7) | 35 | ø50(F7) | 5 | 64 | 94 | 113 | 132 |
| 0.4KW | 70 | 4-M4/M5 | ø14(F7) | 35 | ø50(F7) | 5 | 64 | 94 | 113 | 132 |

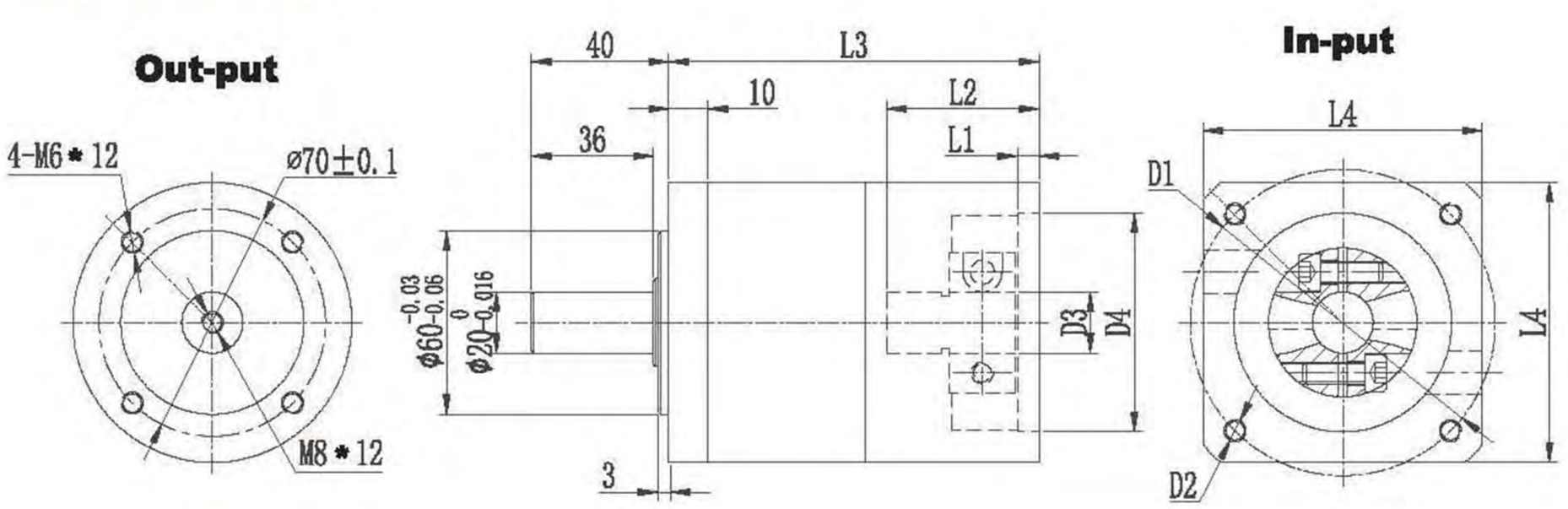
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZE 80 Drawing Diemensions

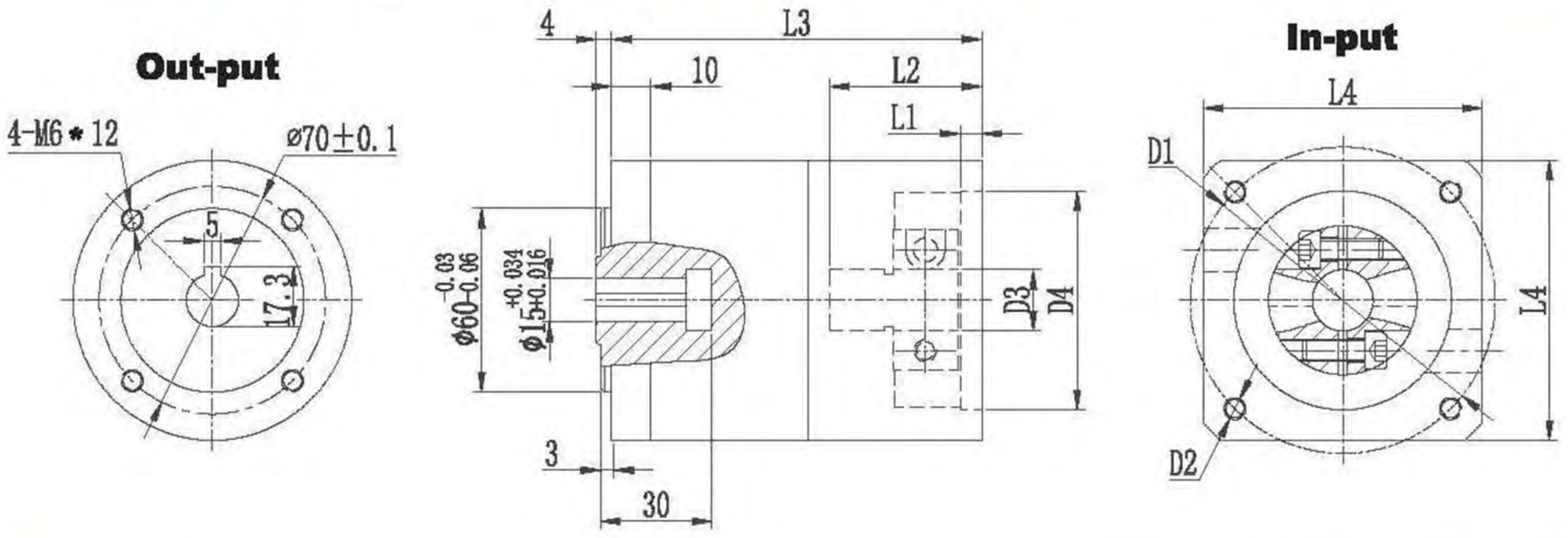
## S2(Shaft with key-way)




## S1 (Shaft)




## S3 (Hollow Shaft)

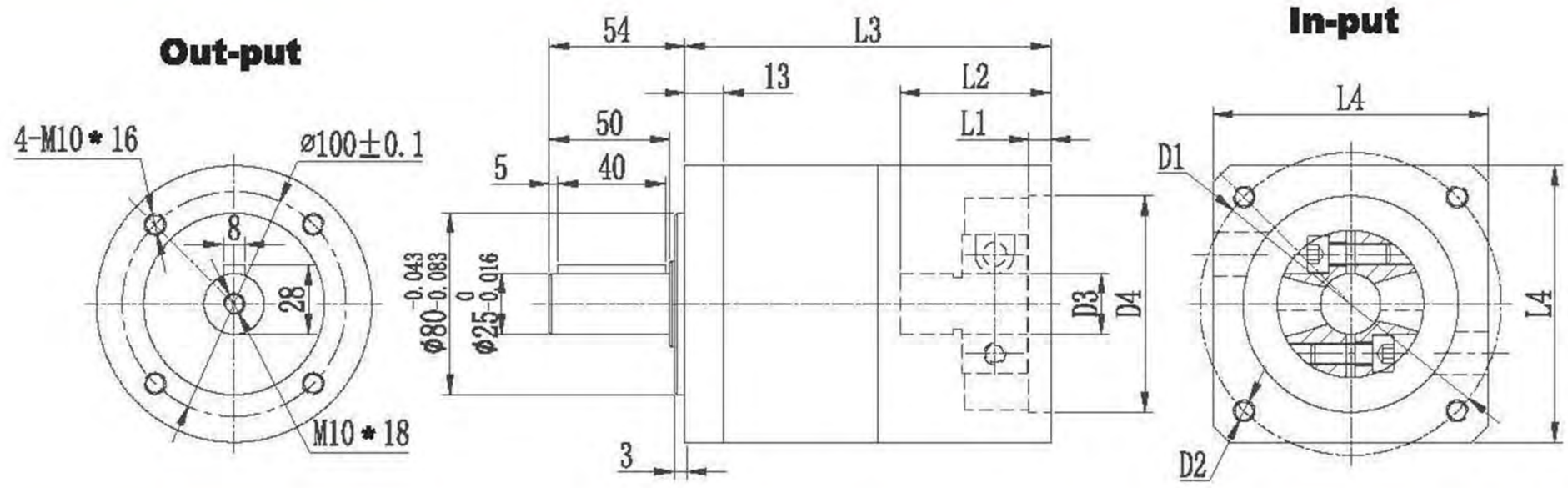



| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.4KW | 70 | 4-M4/M5 | φ14(F7) | 45 | 50(F7) | 5 | 85 | 100 | 120 | 139 |
| 0.75KW | 90 | 4-M5/M6 | φ19(F7) | 45 | 70(F7) | 5 | 85 | 100 | 120 | 139 |

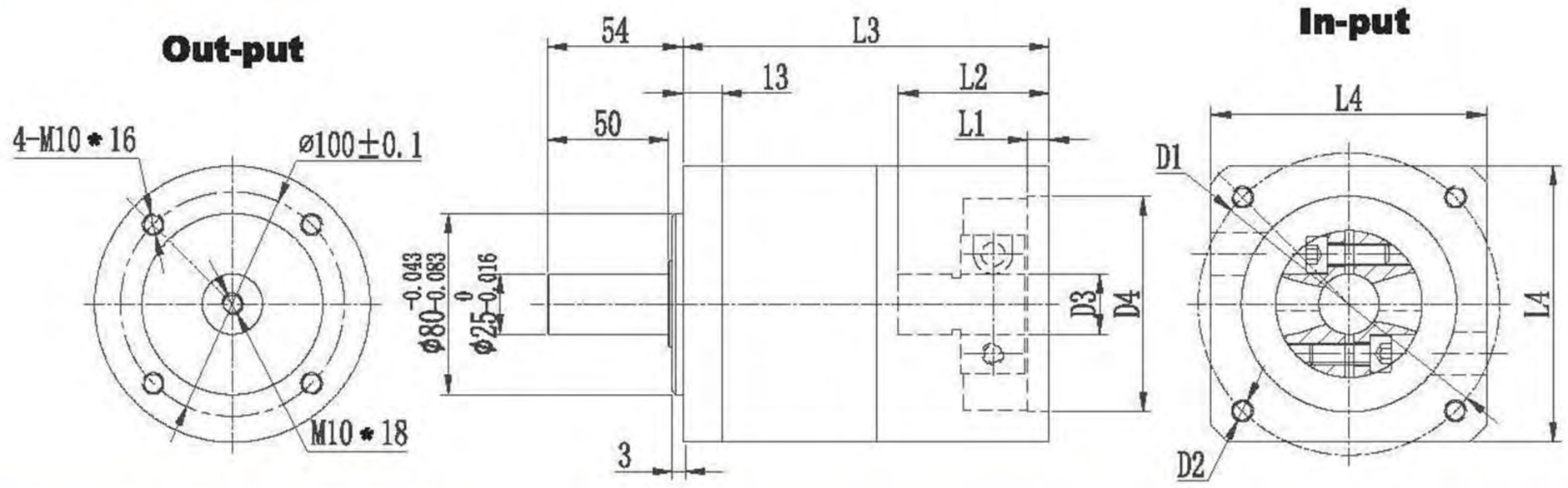
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZE120 Drawing Diemensions

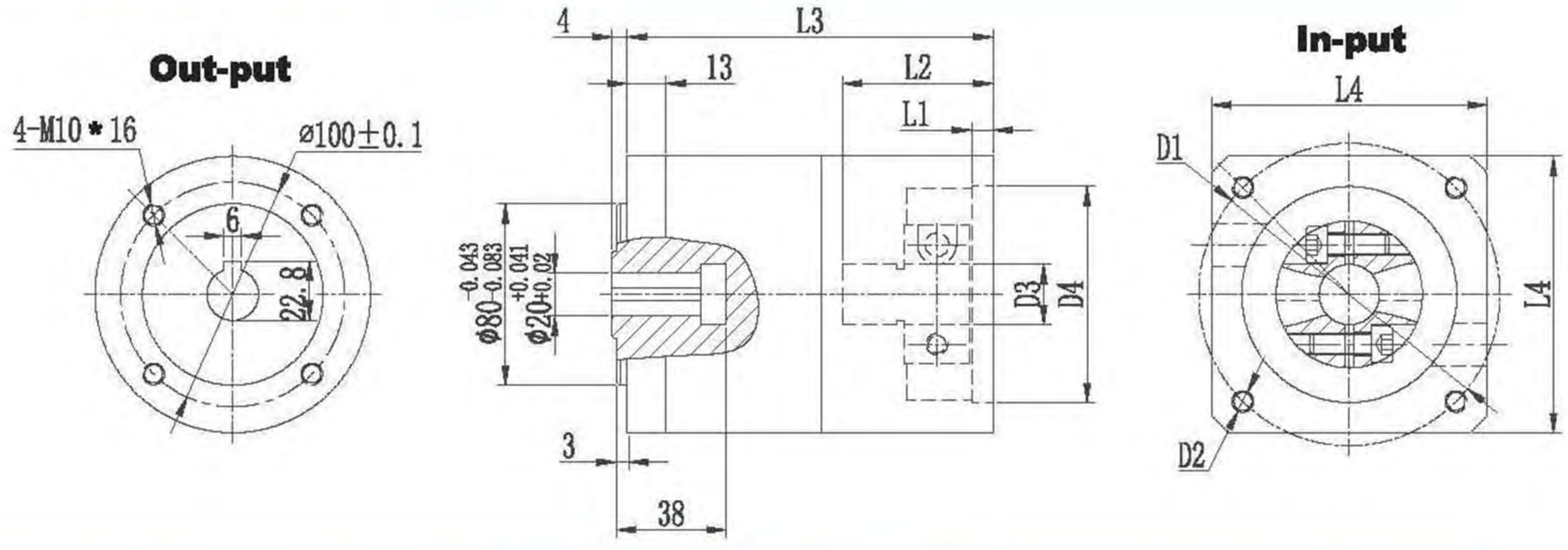
## S2(Shaft with key-way)




## S1 (Shaft)




## S3 (Hollow Shaft)

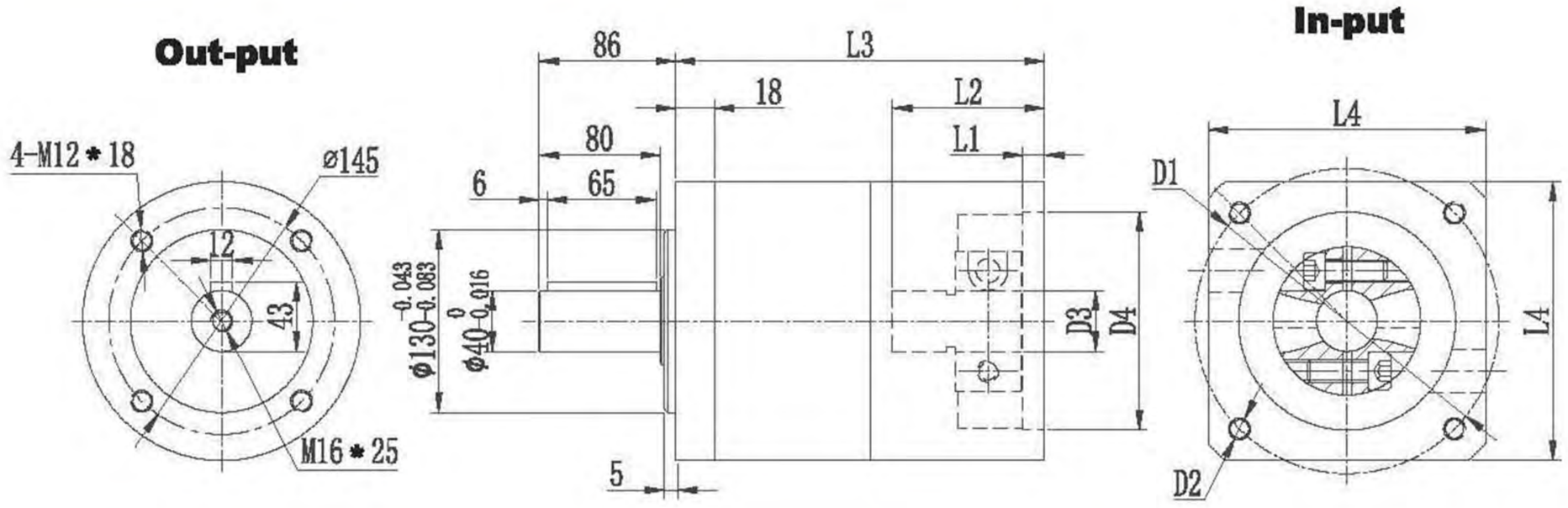



| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.75KW | 90 | 4-M6 | ø19(F7) | 62 | ø70(F7) | 10 | 130 | 152 | 184 | 216 |
| 1KW/1.5KW | 145/130 | 4-M8 | ø22/24(F7) | 62 | ø110(F7) | 10 | 130 | 152 | 184 | 216 |

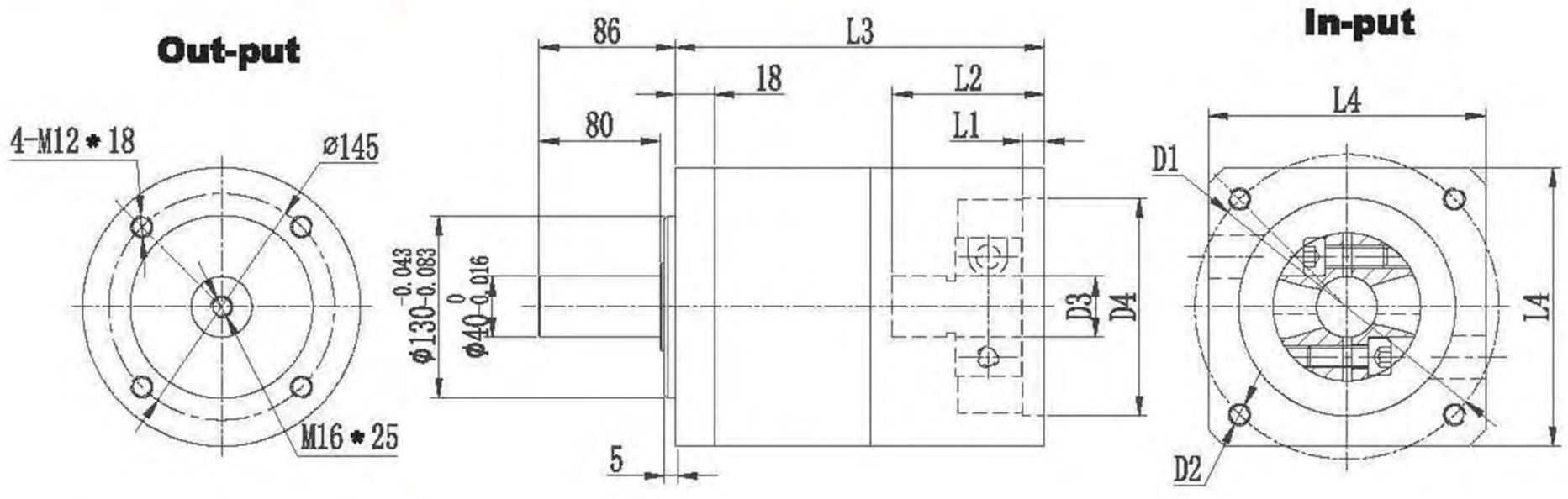
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZE160 Drawing Diemensions

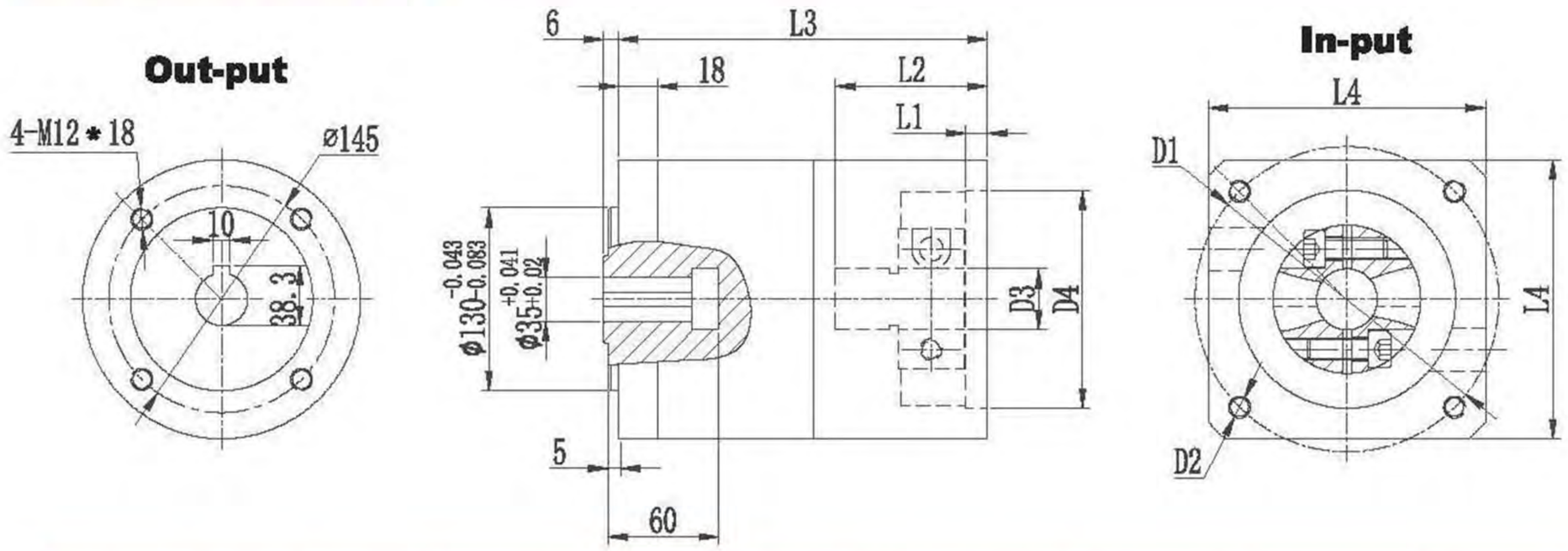
## S2(Shaft with key-way)




## S1 (Shaft)




## S3 (Hollow Shaft)




| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 2.0KW | 145 | 4-M8 | φ22(F7) | 62 | 110(F7) | 10 | 150 | 177 | 224 | 271 |
| 3.0KW | 200 | 4-M12 | φ35(F7) | 82 | 114.3(F7) | 10 | 180 | 197 | 244 | 291 |

**Note:Above mentioned size based on standard product, we are accept any others change.**

## ZER SERIES TECHNICAL SPECIFICATIONS

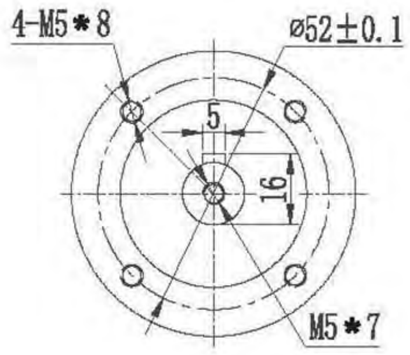
| Specification | Units | Stage | Ratio | ZER60 | ZER80 | ZER120 | ZER160 |
|---|---|---|---|---|---|---|---|
| Rated Output Torque/$T_{2N}$ | NM | L1 | 3 | 25 | 50 | 140 | 310 |
| | | | 4 | 42 | 120 | 260 | 800 |
| | | | 5 | 40 | 110 | 240 | 680 |
| | | | 7 | | | 105 | 470 |
| | | | 8 | 18 | 40 | | |
| | | | 10 | 12 | 20 | 100 | 200 |
| | | L2 | 9 | 42 | 50 | 140 | 340 |
| | | | 12 | 40 | 50 | 200 | 680 |
| | | | 15 | 40 | 50 | 200 | 680 |
| | | | 16 | 42 | 110 | 260 | 800 |
| | | | 20 | 42 | 110 | 260 | 800 |
| | | | 25 | 40 | 100 | 240 | 680 |
| | | | 28 | | | 235 | 800 |
| | | | 30 | 25 | 65 | 235 | 680 |
| | | | 32 | 45 | 125 | | |
| | | | 35 | 40 | | 140 | 590 |
| | | | 40 | 42 | 100 | 260 | 680 |
| | | | 50 | 23 | | 112 | 340 |
| | | | 64 | 18 | 50 | | |
| | | | 70 | | | 105 | 470 |
| | | | 100 | | | 105 | 200 |
| | | L3 | 60 | 45 | 110 | 260 | 800 |
| | | | 64 | 42 | 120 | 260 | 800 |
| | | | 80 | 42 | 110 | 260 | 680 |
| | | | 100 | 42 | 110 | 260 | 800 |
| | | | 120 | 40 | 110 | 260 | 800 |
| | | | 125 | 23 | 110 | 230 | 700 |
| | | | 140 | 25 | | 260 | 800 |
| | | | 150 | 23 | 110 | 260 | 800 |
| | | | 160 | 45 | 120 | 260 | 800 |
| | | | 200 | 40 | 90 | 230 | 800 |
| | | | 250 | 42 | 110 | 200 | 680 |
| | | | 256 | 45 | 125 | | |
| | | | 320 | 41 | 110 | | |
| | | | 350 | | | 112 | 515 |
| | | | 400 | | 90 | 112 | 515 |
| | | | 500 | | 90 | 112 | 515 |
| | | | 512 | 18 | 55 | | |
| | | | 700 | | | 112 | 515 |
| | | | 1000 | | | 112 | 200 |
| | | L4 | Above 4 Stages Please Contact Us | | | | |
| Backlash (arcmin ) | | L1 | | ≤10 | ≤10 | ≤10 | ≤10 |
| | | L2 | | ≤12 | ≤12 | ≤12 | ≤12 |
| | | L3 | | ≤15 | ≤15 | ≤15 | ≤15 |
| Max.Radial Force | | N | | 265 | 400 | 1240 | 3700 |
| Max.Axial Force | | N | | 200 | 420 | 1000 | 3500 |
| Emergency Stop Torque | | NM | | 2 Times Rated Torque | | | |
| Effiency ( η ) | | L1 | | 96% | | | |
| | | L2 | | 94% | | | |
| | | L3 | | 90% | | | |
| Rated Input Speed(rpm) | | | | 3500 | 3500 | 3000 | 2000 |
| Max.Input Speed(rpm) | | | | 7000 | 6000 | 5000 | 3500 |
| GWT ( kg ) | | L1 | | 1.6 | 4.1 | 9.6 | 20 |
| | | L2 | | 2.1 | 4.7 | 11.5 | 25 |
| | | L3 | | 2.8 | 5.4 | 14 | 30 |
| Service Life | | h | | 20000 Hrs | | | |
| Noise | | dB | | ≤65 | ≤65 | ≤65 | ≤65 |
| Lubrication | | | | Whole-life Free Service(Synthetic Complex Soap Grease) | | | |
| Operating Temperature | | | | '-10℃-+90℃ ( Beyond Temperature Please Contact Us ) | | | |
| Mounting | | | | Any Position | | | |
| Protect Class | | | | IP65 | | | |

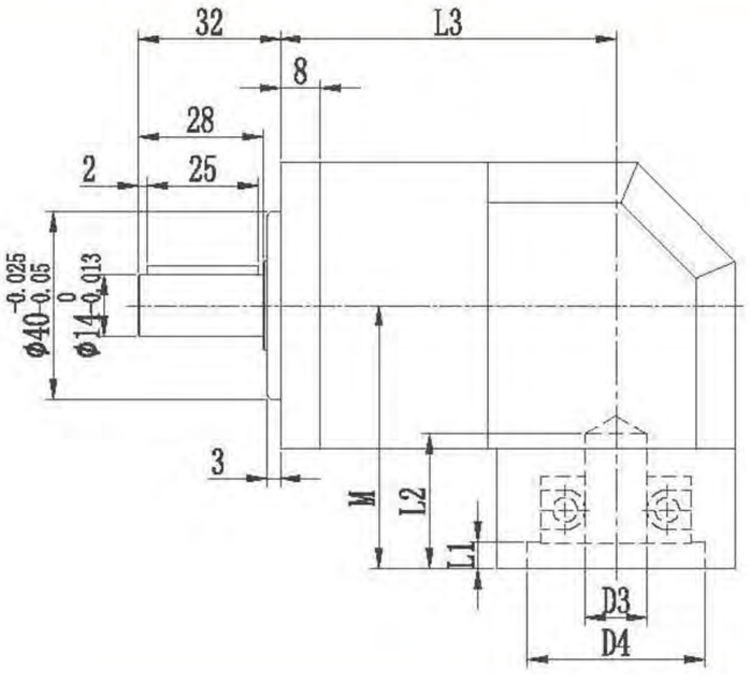
1. About L1 specifications major are measured on 5 : 1 gear ratio.
2. Ratios; ( i = Nin /Out )
3. Backlash : Measured on 2% of nominal output torque.
4. Max. Radial and Axial Load; Applied to the output shaft center, and 50% of duty time,and at 100rpm.
5. Duty Cycle < 60%, Average Lifetime = List value; Duty Cycle >= 60%, Average Lifetime < 50% List value.
6. Noise Level; Distance 1m, and measured on idle running, and at nominal input speed.

# ZER60 Drawing Diemensions

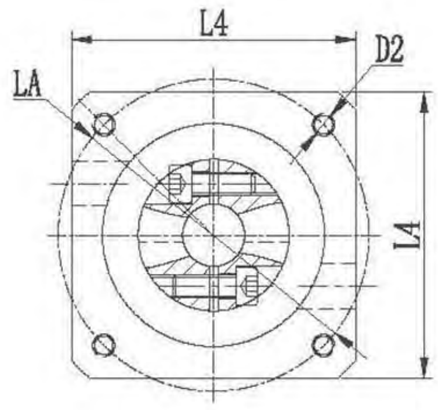
## S2(Shaft with key-way)

**Out-put**



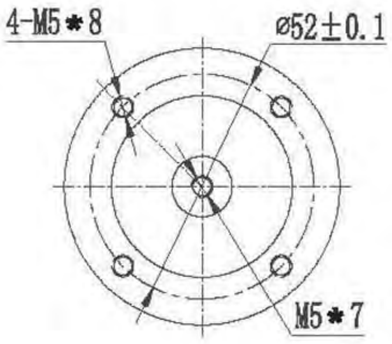



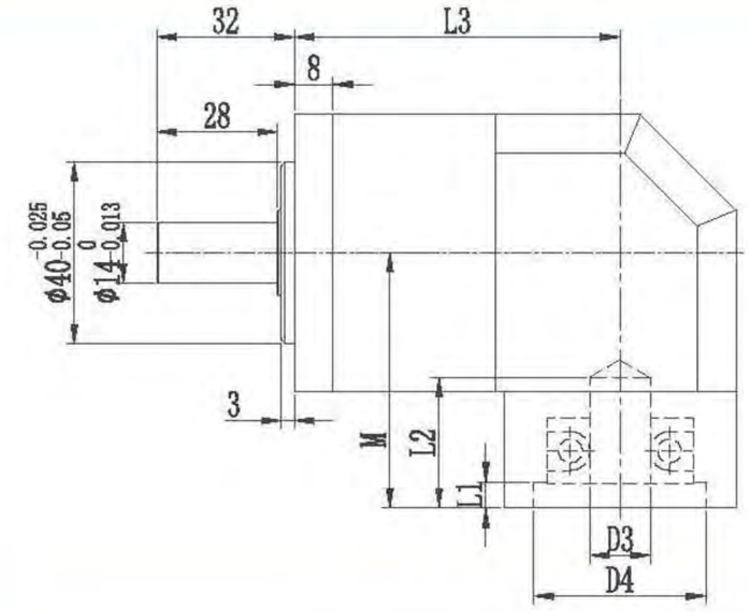

**In-put**



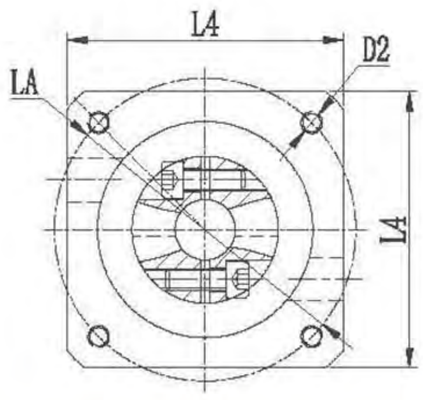

## S1 (Shaft)

**Out-put**



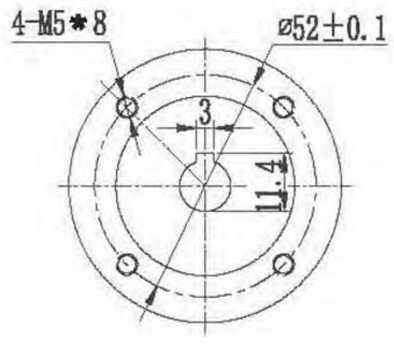



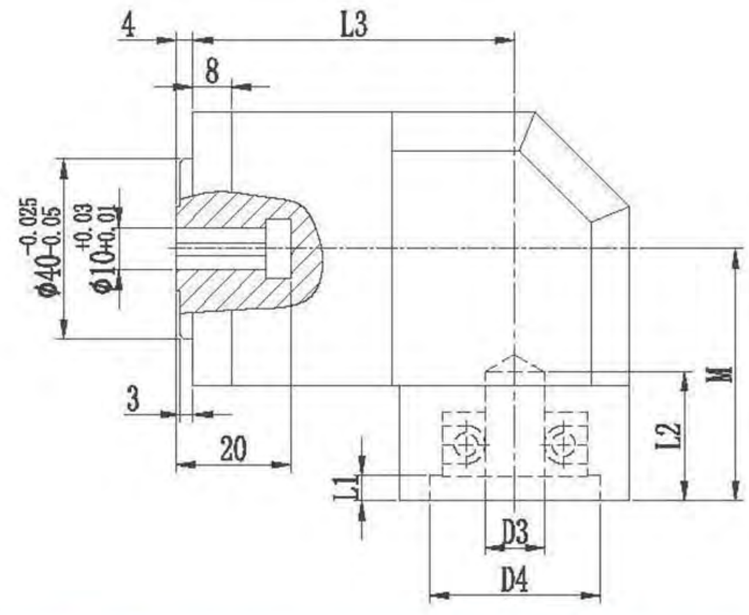

**In-put**



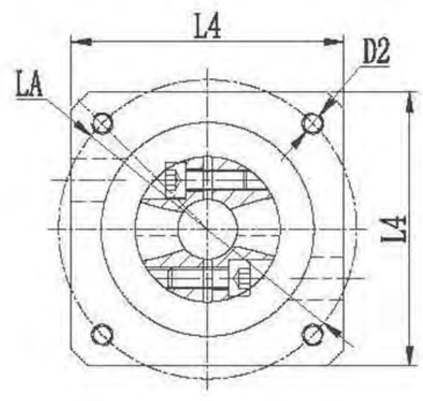

## S3 (Hollow Shaft)

**Out-put**




**In-put**



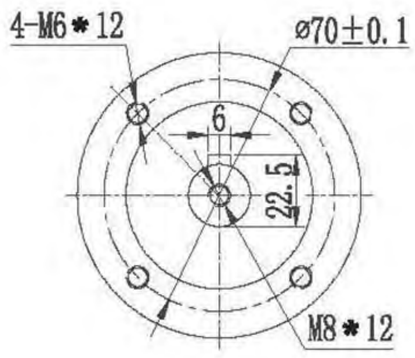

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.2KW | 70 | 4-M4/M5 | ø11(F7) | 35 | ø50(H7) | 5 | 64 | 72 | 90 | 108 | 125 |
| 0.4KW | 70 | 4-M4/M5 | ø14(F7) | 35 | ø50(H7) | 5 | 64 | 72 | 90 | 108 | 125 |

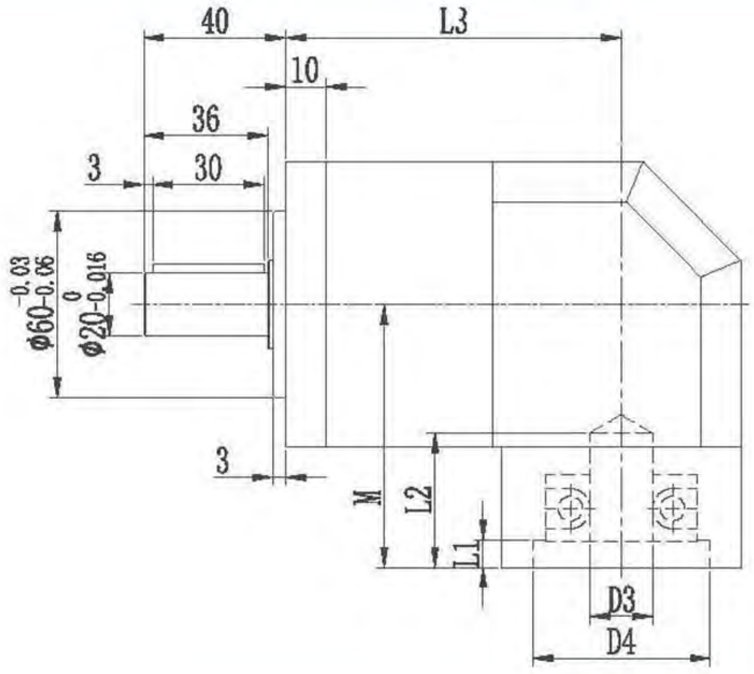
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZER80 Drawing Diemensions

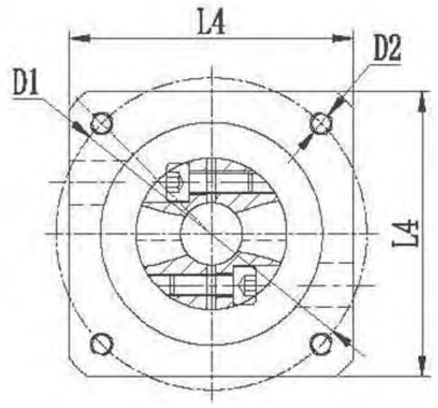
## S2(Shaft with key-way)

### Out-put



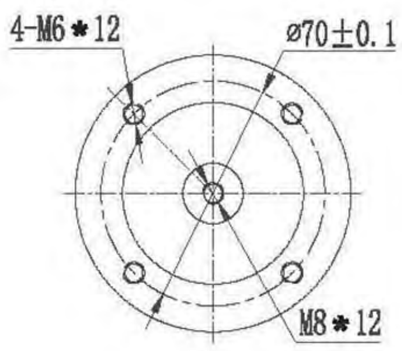



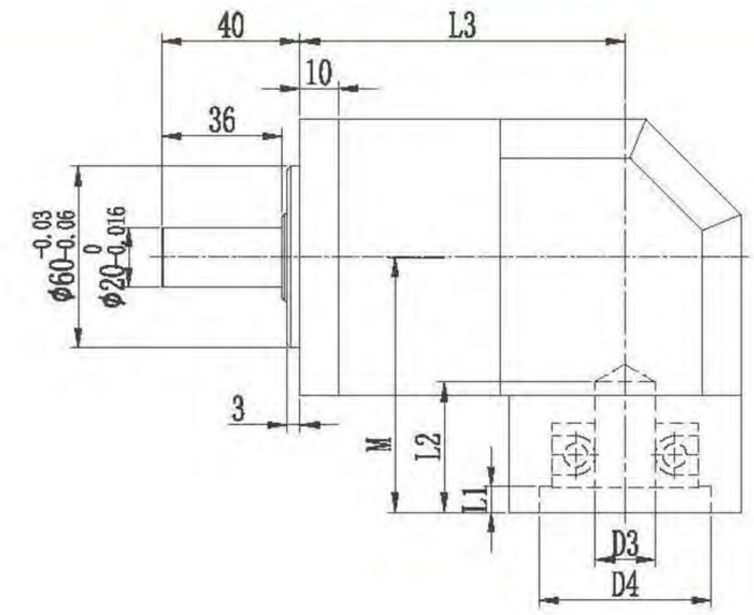

### In-put



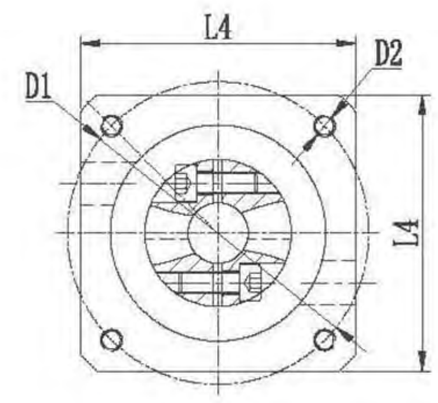

## S1 (Shaft)

### Out-put



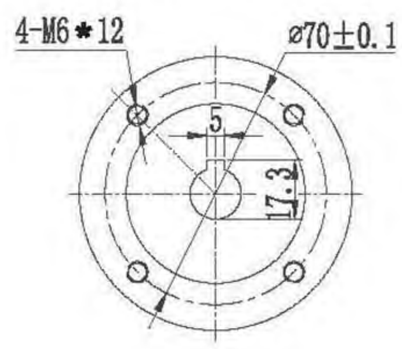



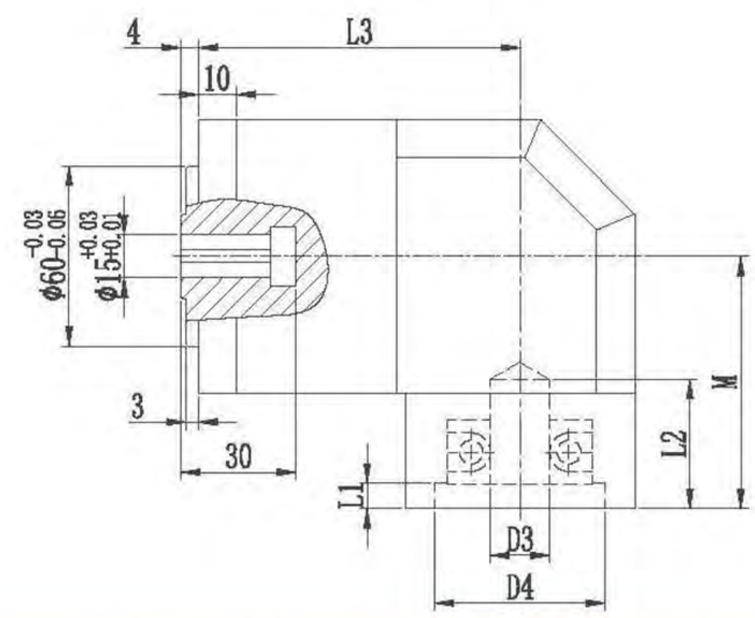

### In-put



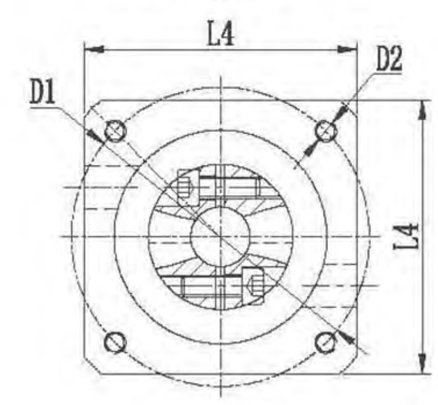

## S3 (Hollow Shaft)

### Out-put




### In-put



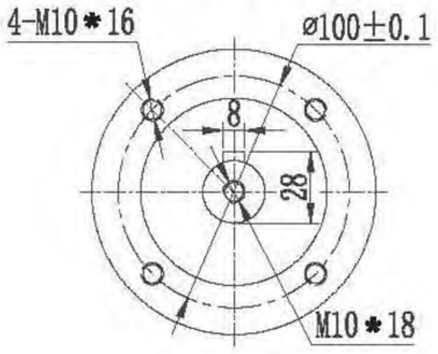

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.4KW | 70 | 4-M4/M5 | ø14(F7) | 35 | 50(H7) | 5 | 90 | 143 | 116 | 134 | 152 |
| 0.75KW | 90 | 4-M5/M6 | ø19(F7) | 35 | 70(H7) | 5 | 90 | 143 | 116 | 134 | 152 |

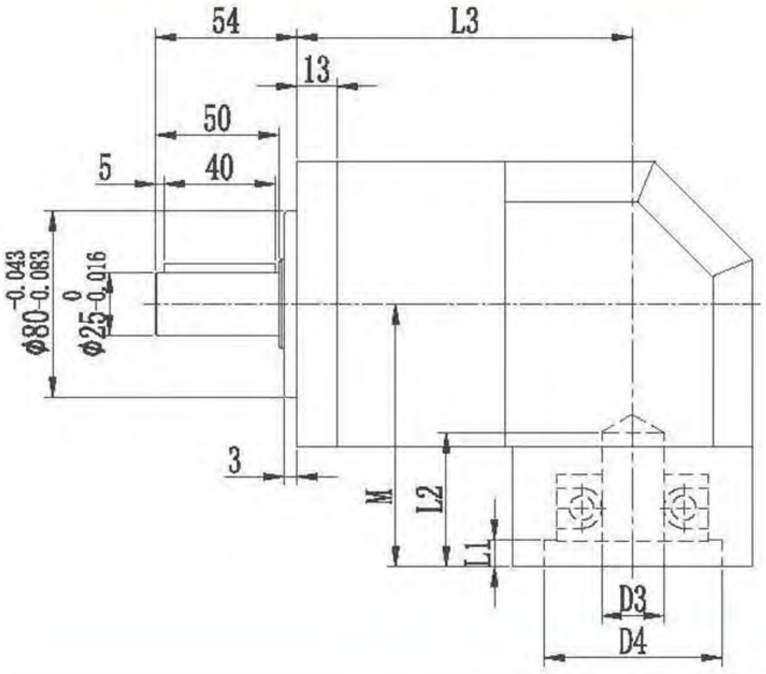
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZER120 Drawing Diemensions

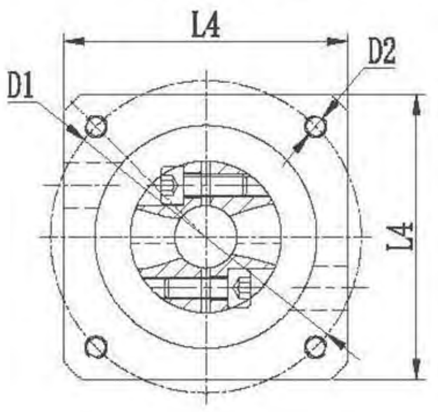
## S2(Shaft with key-way)

**Out-put**



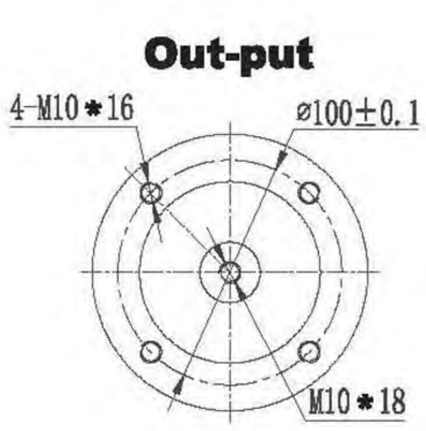



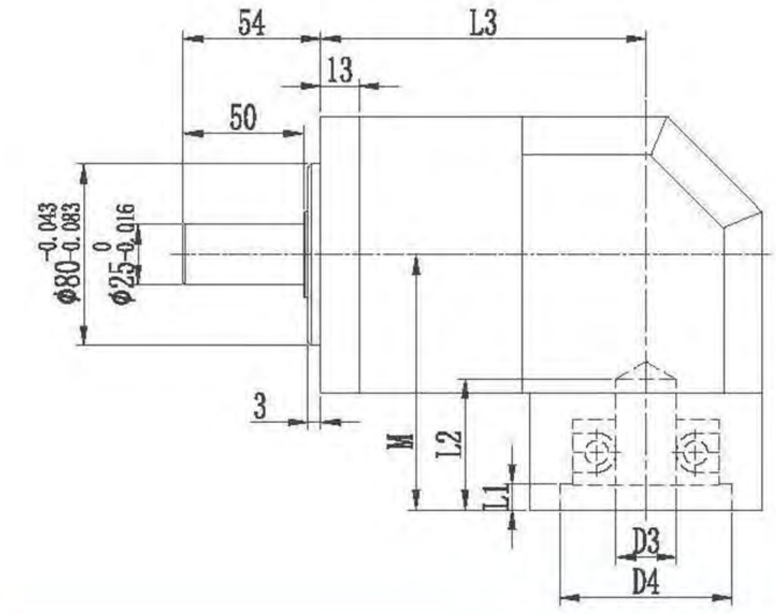

**In-put**



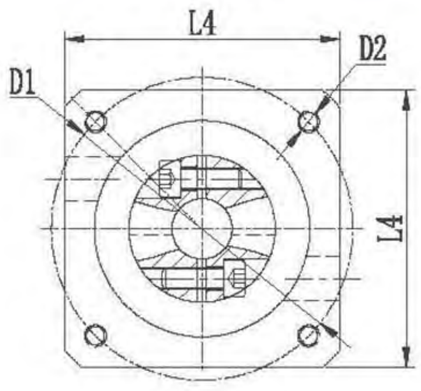

## S1 (Shaft)

**Out-put**



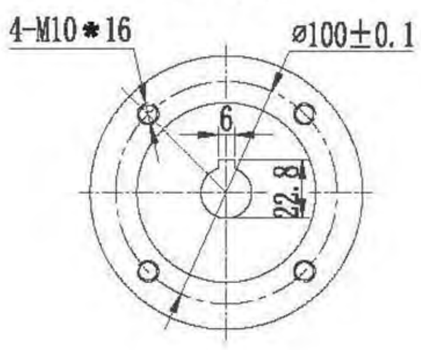



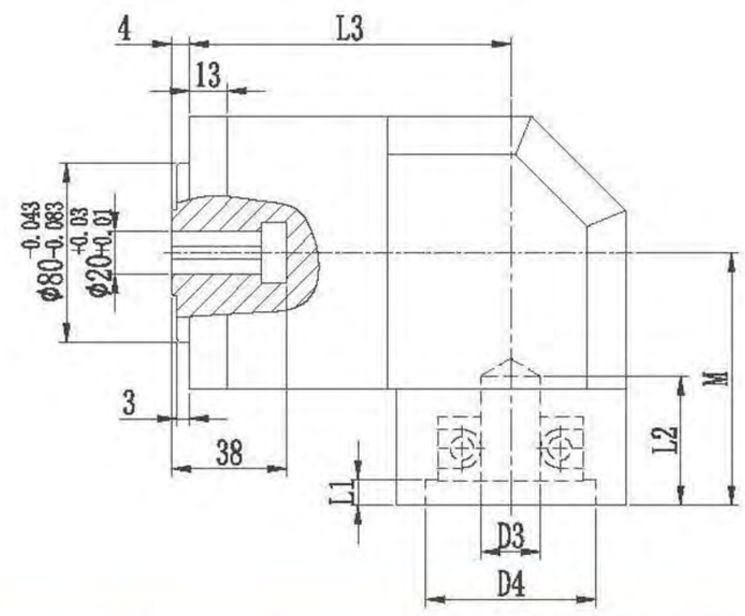

**In-put**



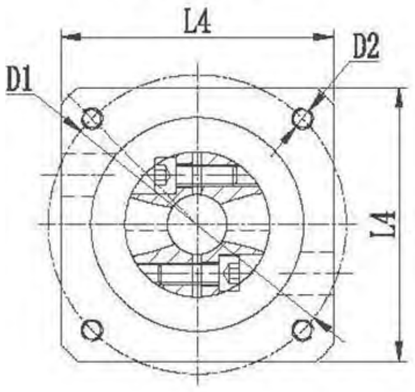

## S3 (Hollow Shaft)

**Out-put**




**In-put**



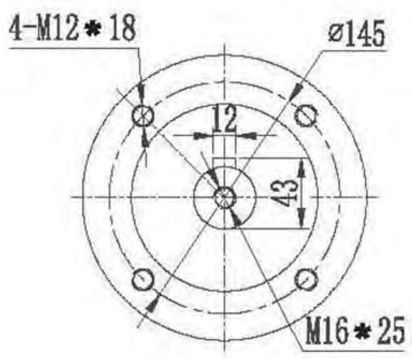

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.75KW | 90 | 4-M6 | ø19(F7) | 54 | ø70(H7) | 10 | 130 | 114 | 151 | 183 | 215 |
| 1KW/1.5KW | 145/130 | 4-M8 | ø22/24(F7) | 64 | ø110(H7) | 10 | 130 | 124 | 151 | 183 | 215 |

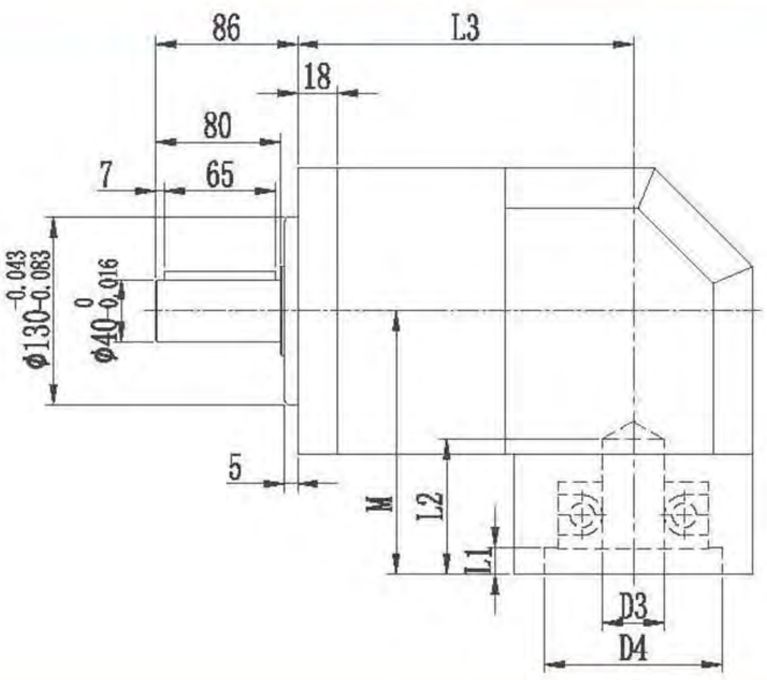
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZER160 Drawing Diemensions

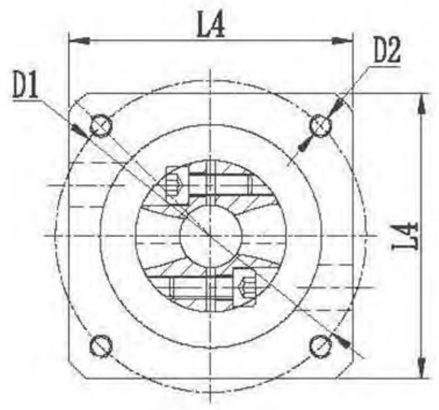
## S2(Shaft with key-way)

### Out-put



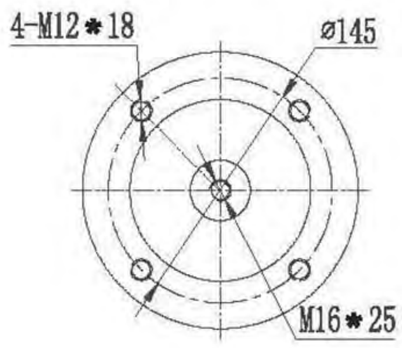



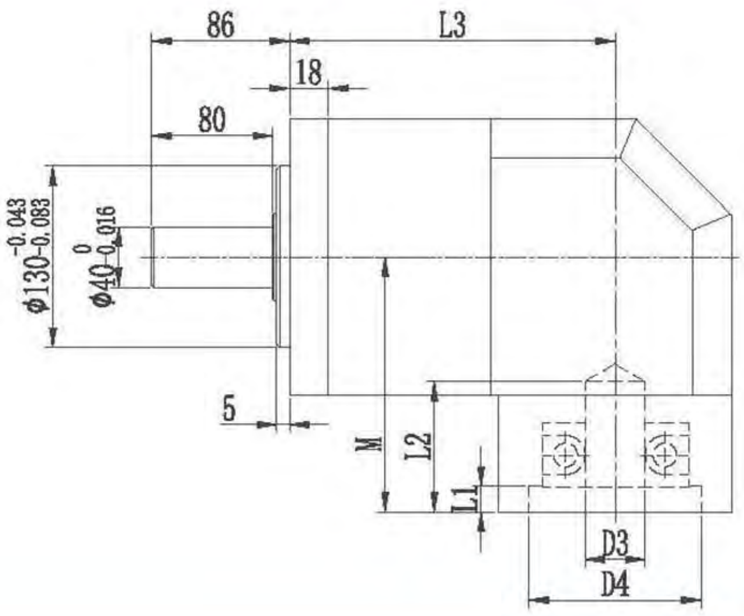

### In-put



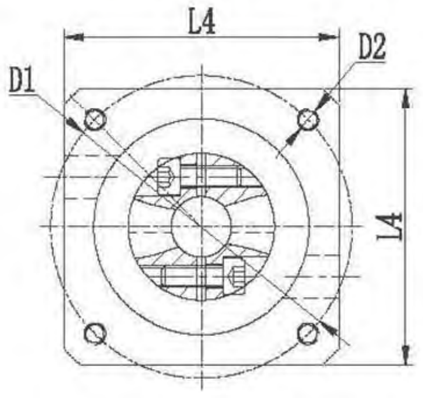

## S1 (Shaft)

### Out-put



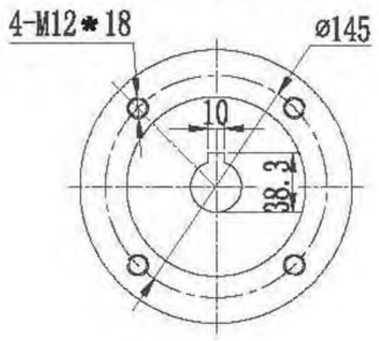



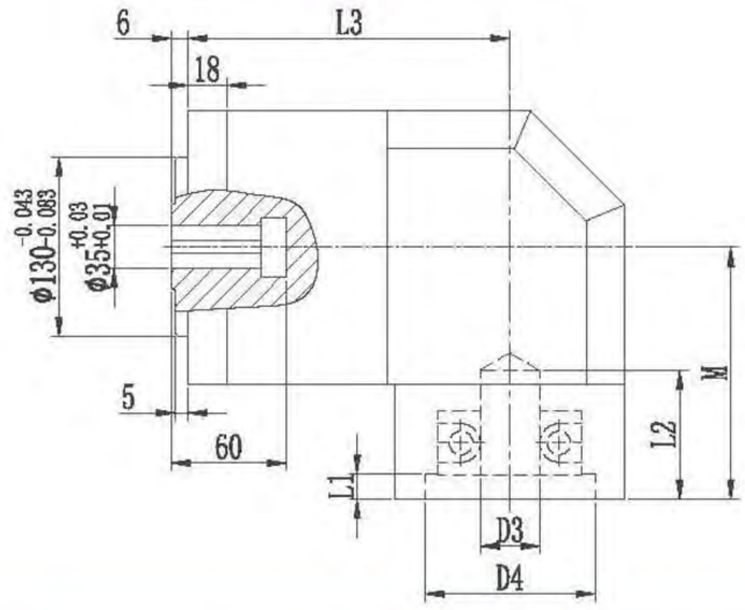

### In-put



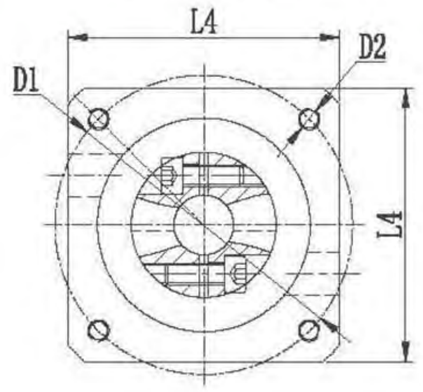

## S3 (Hollow Shaft)

### Out-put




### In-put




| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.0KW | 145 | 4-M8 | φ22(F7) | 62 | 110(H7) | 10 | 150 | 150 | 198 | 245 | 292 |
| 3.0/4KW | 200 | 4-M12 | φ35(F7) | 82 | 114.3(H7) | 10 | 180 | 160 | 198 | 245 | 292 |

**Note:Above mentioned size based on standard product, we are accept any others change.**

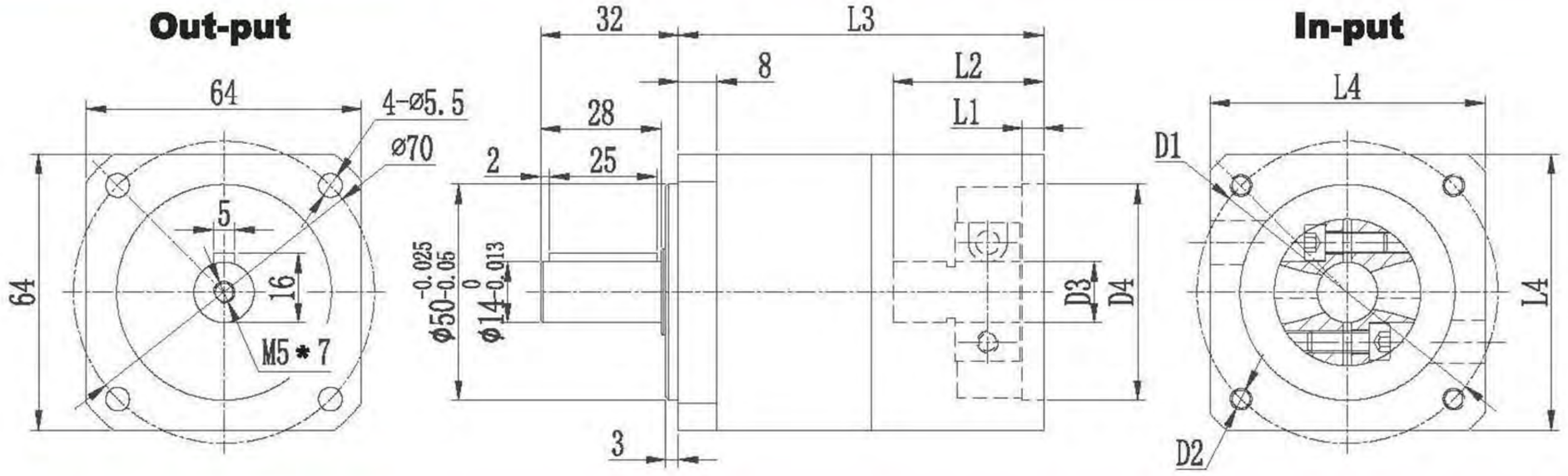
## ZF SERIES TECHNICAL SPECIFICATIONS

| Specification | Units | Stage | Ratio | ZF60 | ZF80 | ZF120 | ZF160 |
|---|---|---|---|---|---|---|---|
| Rated Output Torque/T2N | NM | L1 | 3 | 25 | 50 | 140 | 310 |
| | | | 4 | 42 | 120 | 260 | 800 |
| | | | 5 | 40 | 110 | 240 | 680 |
| | | | 7 | | | 105 | 470 |
| | | | 8 | 18 | 40 | | |
| | | | 10 | 12 | 20 | 100 | 200 |
| | | L2 | 9 | 42 | 50 | 140 | 340 |
| | | | 12 | 40 | 50 | 200 | 680 |
| | | | 15 | 40 | 50 | 200 | 680 |
| | | | 16 | 42 | 110 | 260 | 800 |
| | | | 20 | 42 | 110 | 260 | 800 |
| | | | 25 | 40 | 100 | 240 | 680 |
| | | | 28 | | | 235 | 800 |
| | | | 30 | 25 | 65 | 235 | 680 |
| | | | 32 | 45 | 125 | | |
| | | | 35 | 40 | | 140 | 590 |
| | | | 40 | 42 | 100 | 260 | 680 |
| | | | 50 | 23 | | 112 | 340 |
| | | | 64 | 18 | 50 | | |
| | | | 70 | | | 105 | 470 |
| | | | 100 | | | 105 | 200 |
| | | L3 | 60 | 45 | 110 | 260 | 800 |
| | | | 64 | 42 | 120 | 260 | 800 |
| | | | 80 | 42 | 110 | 260 | 680 |
| | | | 100 | 42 | 110 | 260 | 800 |
| | | | 120 | 40 | 110 | 260 | 800 |
| | | | 125 | 23 | 110 | 230 | 700 |
| | | | 140 | 25 | | 260 | 800 |
| | | | 150 | 23 | 110 | 260 | 800 |
| | | | 160 | 45 | 120 | 260 | 800 |
| | | | 200 | 40 | 90 | 230 | 800 |
| | | | 250 | 42 | 110 | 200 | 680 |
| | | | 256 | 45 | 125 | | |
| | | | 320 | 41 | 110 | | |
| | | | 350 | | | 112 | 515 |
| | | | 400 | | 90 | 112 | 515 |
| | | | 500 | | 90 | 112 | 515 |
| | | | 512 | 18 | 55 | | |
| | | | 700 | | | 112 | 515 |
| | | | 1000 | | | 112 | 200 |
| | | L4 | Above 4 Stages Please Contact Us | | | | |
| Backlash (arcmin ) | | L1 | | ≤10 | ≤10 | ≤10 | ≤10 |
| | | L2 | | ≤12 | ≤12 | ≤12 | ≤12 |
| | | L3 | | ≤15 | ≤15 | ≤15 | ≤15 |
| Max.Radial Force | | N | | 265 | 400 | 1240 | 3700 |
| Max.Axial Force | | N | | 200 | 420 | 1000 | 3500 |
| Emergency Stop Torque | | NM | | 2 Times Rated Torque | | | |
| Effiency ( η ) | | L1 | | 96% | | | |
| | | L2 | | 94% | | | |
| | | L3 | | 90% | | | |
| Rated Input Speed(rpm) | | | | 3500 | 3500 | 3000 | 2000 |
| Max.Input Speed(rpm) | | | | 7000 | 6000 | 5000 | 3500 |
| GWT ( kg ) | | L1 | | 1.3 | 2.2 | 8 | 20 |
| | | L2 | | 1.5 | 2.8 | 9.5 | 26 |
| | | L3 | | 1.8 | 3.4 | 11.5 | 32 |
| Service Life | | h | | 20000 Hrs | | | |
| Noise | | dB | | ≤58 | ≤62 | ≤65 | ≤65 |
| Lubrication | | | | Whole-life Free Service(Synthetic Complex Soap Grease) | | | |
| Operating Temperature | | | | '-10℃-+90℃ ( Beyond Temperature Please Contact Us ) | | | |
| Mounting | | | | Any Position | | | |
| Protect Class | | | | IP65 | | | |

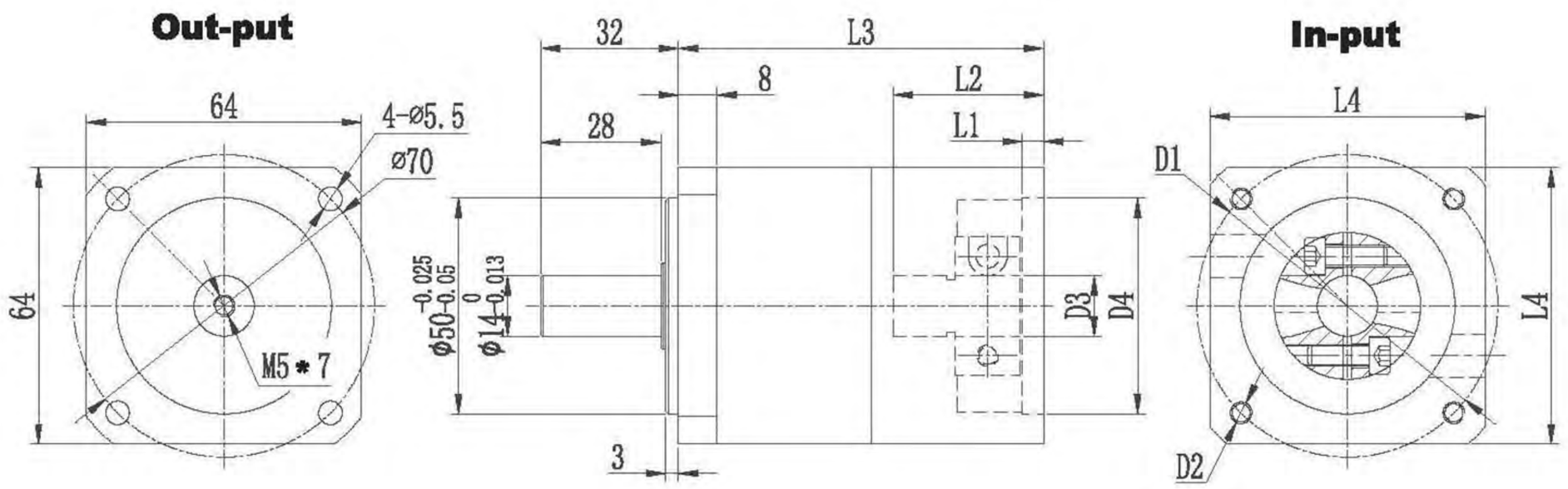
1. About L1 specifications major are measured on 5 : 1 gear ratio.
2. Ratios; ( I = Nin /Out )
3. Backlash : Measured on 2% of nominal output torque.
4. Max. Radial and Axial Load; Applied to the output shaft center, and 50% of duty time,and at 100rpm.
5. Duty Cycle < 60%, Average Lifetime = List value; Duty Cycle >= 60%, Average Lifetime < 50% List value.
6. Noise Level; Distance 1m, and measured on idle running, and at nominal input speed.

# ZF 60 Drawing Diemensions

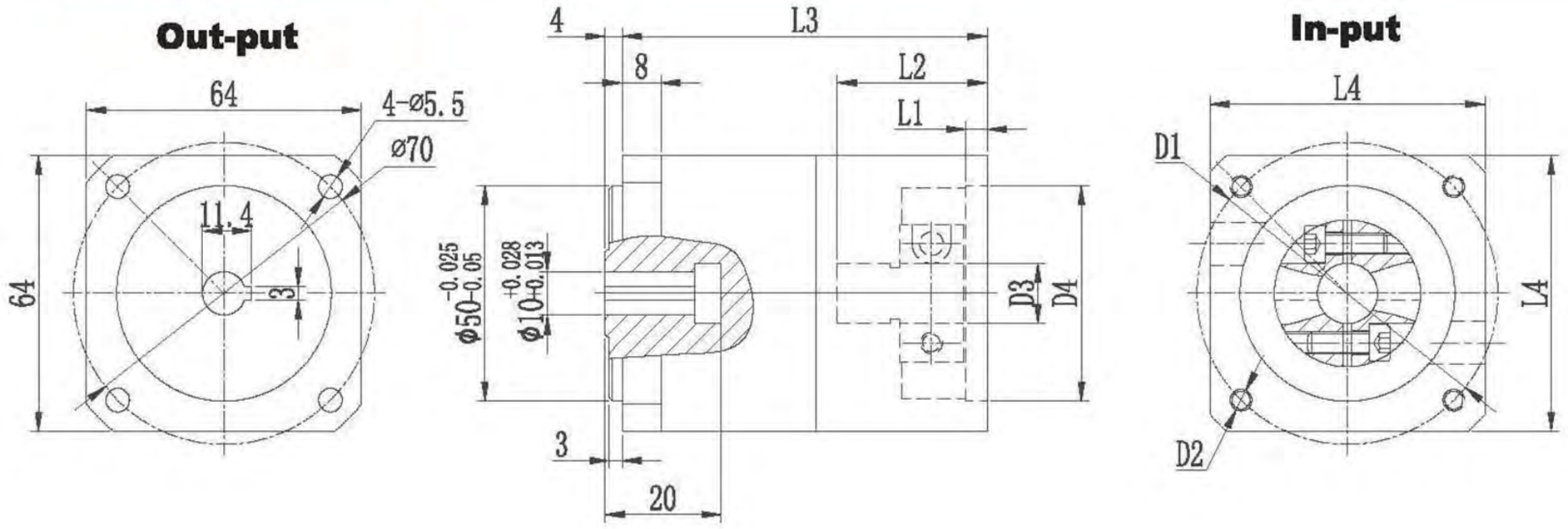
## S2(Shaft with key-way)




## S1 (Shaft)




## S3 (Hollow Shaft)

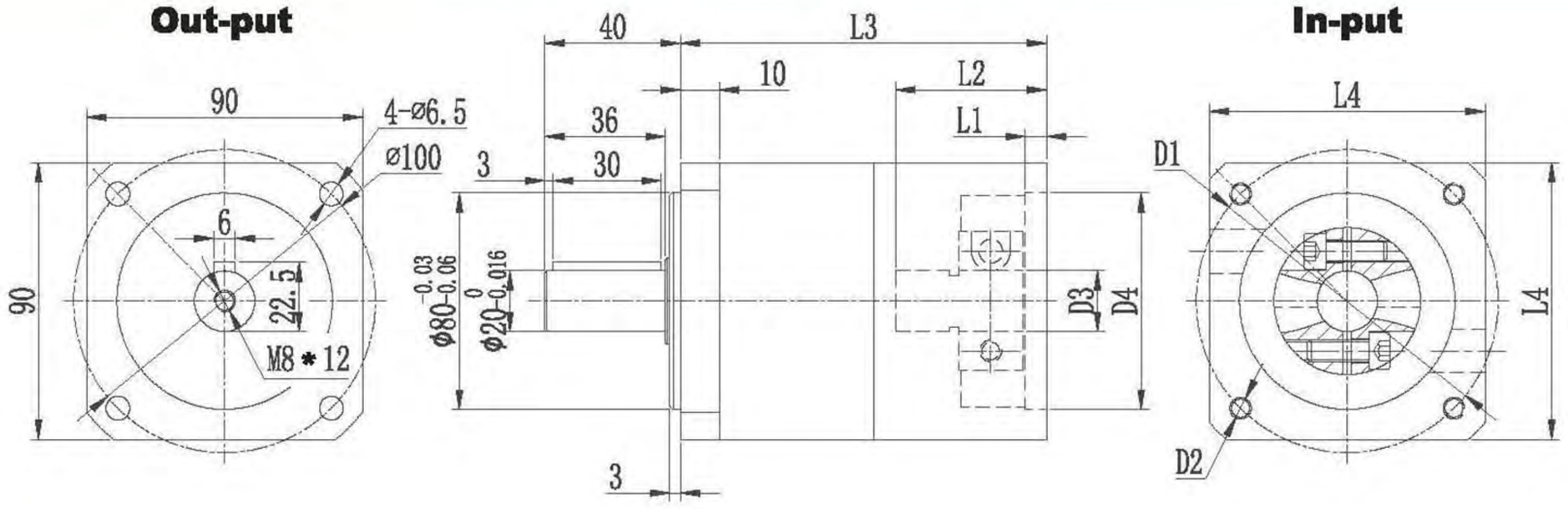



| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.2KW | 70 | 4-M4/M5 | ø11(F7) | 35 | ø50(F7) | 5 | 64 | 94 | 113 | 132 |
| 0.4KW | 70 | 4-M4/M5 | ø14(F7) | 35 | ø50(F7) | 5 | 64 | 94 | 113 | 132 |

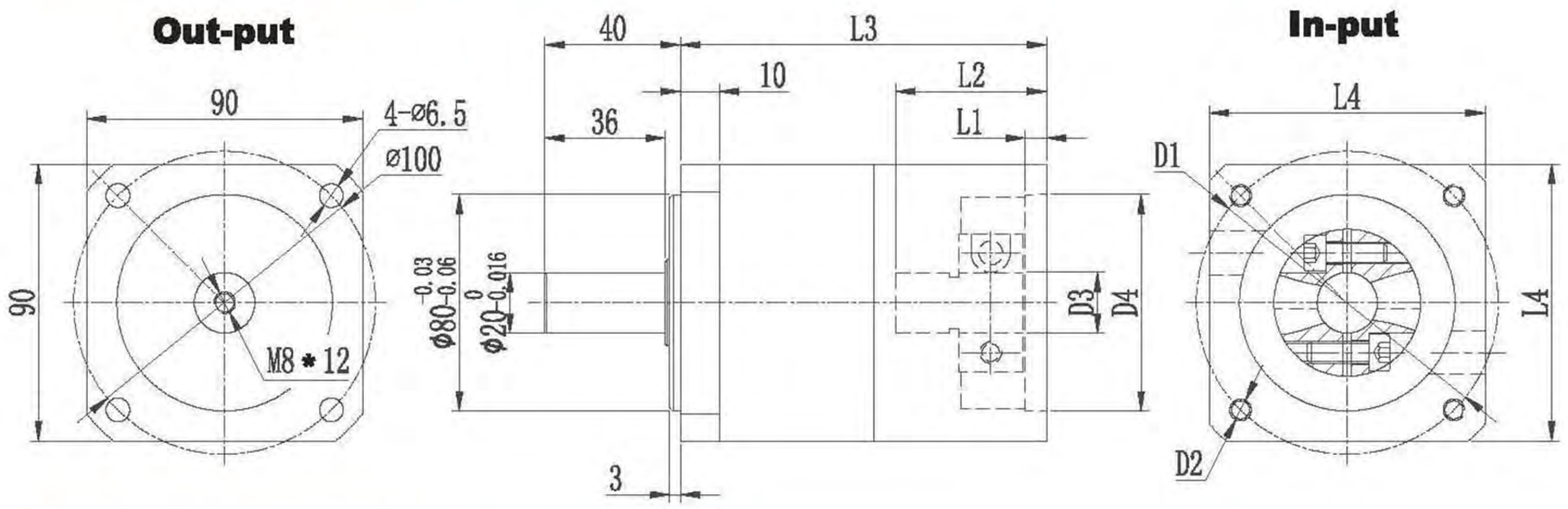
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZF 80 Drawing Diemensions

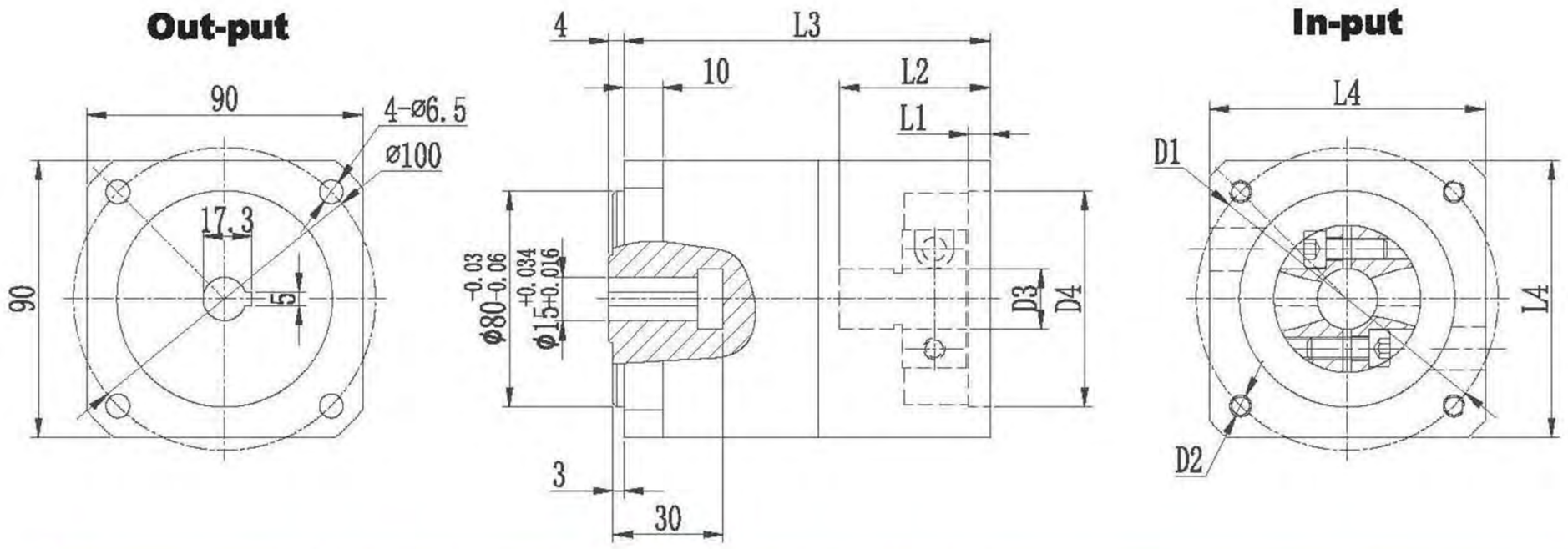
## S2(Shaft with key-way)




## S1 (Shaft)




## S3 (Hollow Shaft)

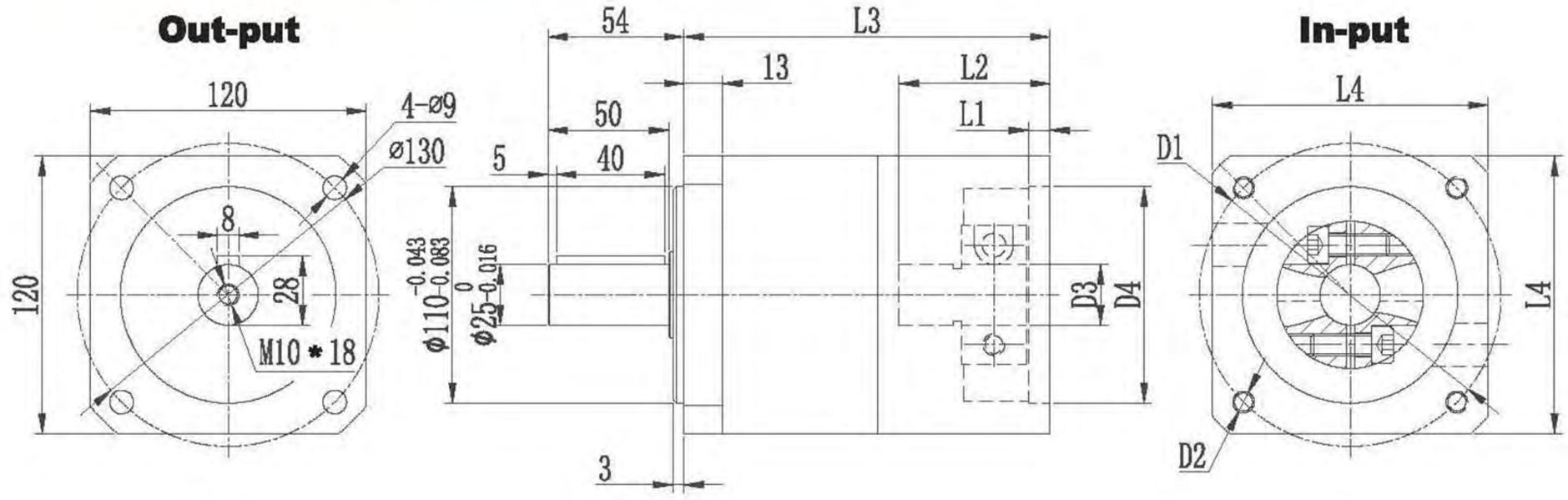



| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.4KW | 70 | 4-M4 | ϕ14(F7) | 45 | 50(F7) | 5 | 85 | 100 | 120 | 139 |
| 0.75KW | 90 | 4-M5 | ϕ19(F7) | 45 | 70(F7) | 5 | 85 | 100 | 120 | 139 |

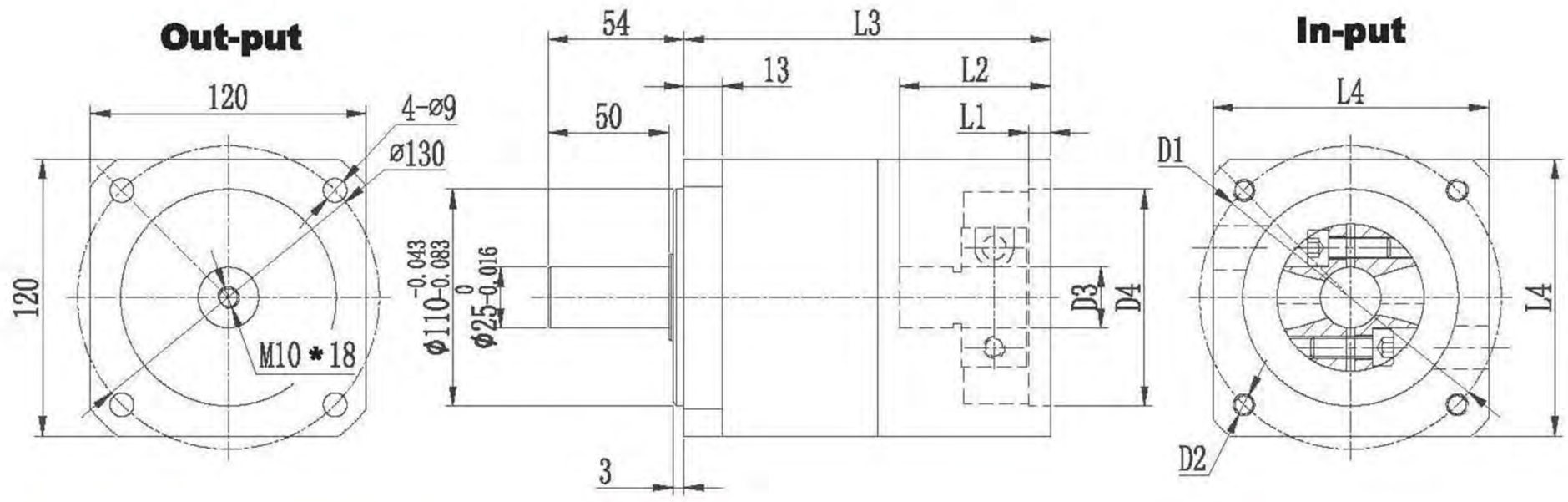
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZF 120 Drawing Diemensions

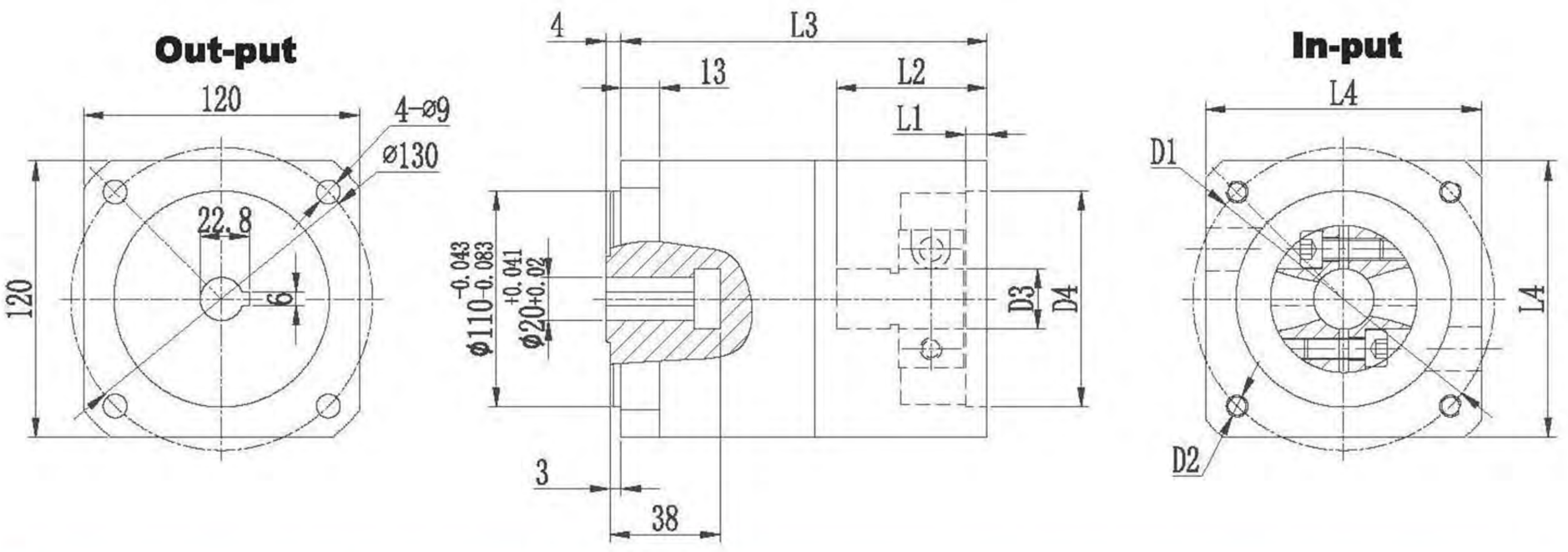
## S2(Shaft with key-way)




## S1 (Shaft)




## S3 (Hollow Shaft)

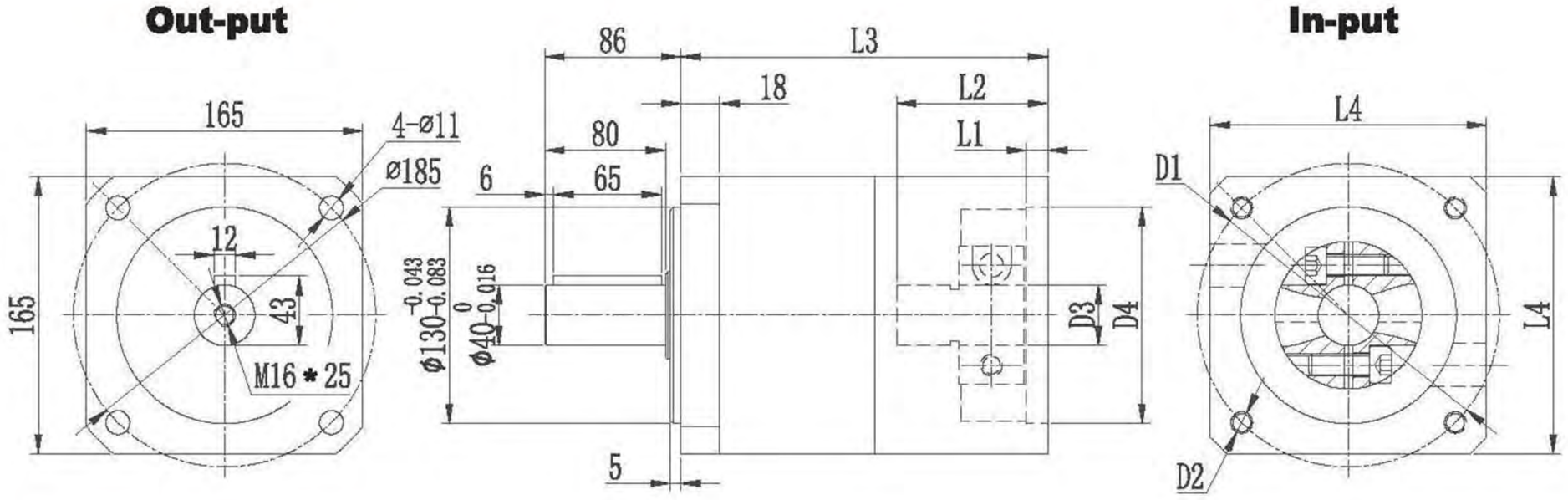



| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.75KW | 90 | 4-M6 | ø19(F7) | 62 | ø70(F7) | 10 | 130 | 153 | 185 | 217 |
| 1KW/1.5KW | 145/130 | 4-M8 | ø22/24(F7) | 62 | ø110(F7) | 10 | 130 | 153 | 185 | 217 |

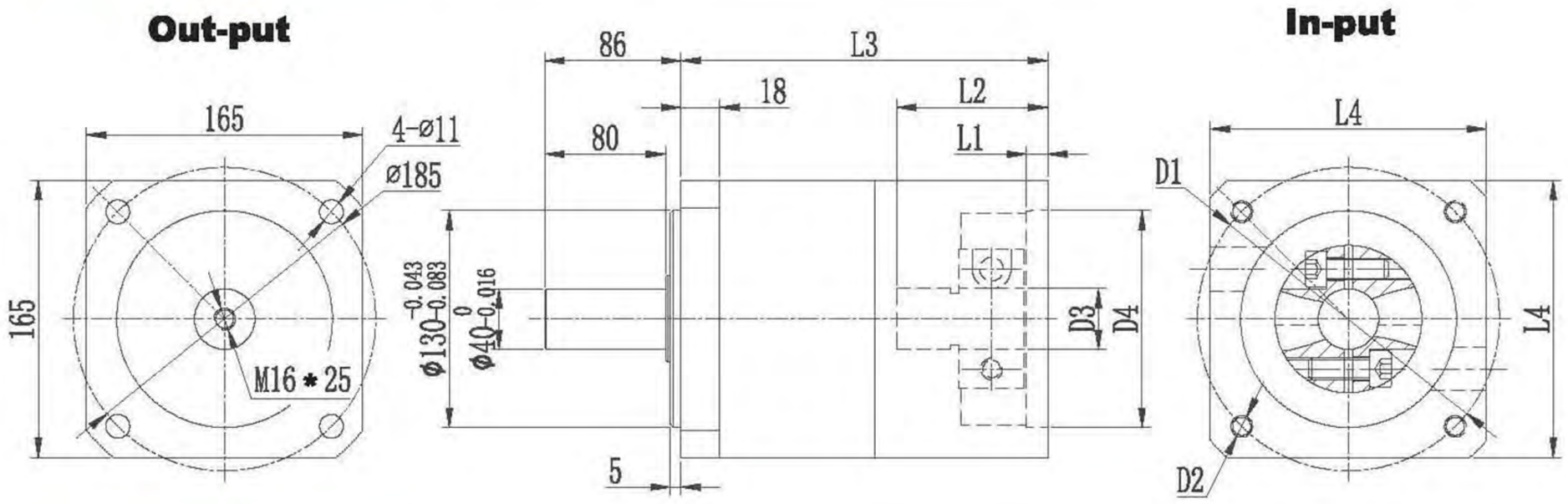
**Note:Above mentioned size based on standard product, we are accept any others change.**

# ZF 160 Drawing Diemensions

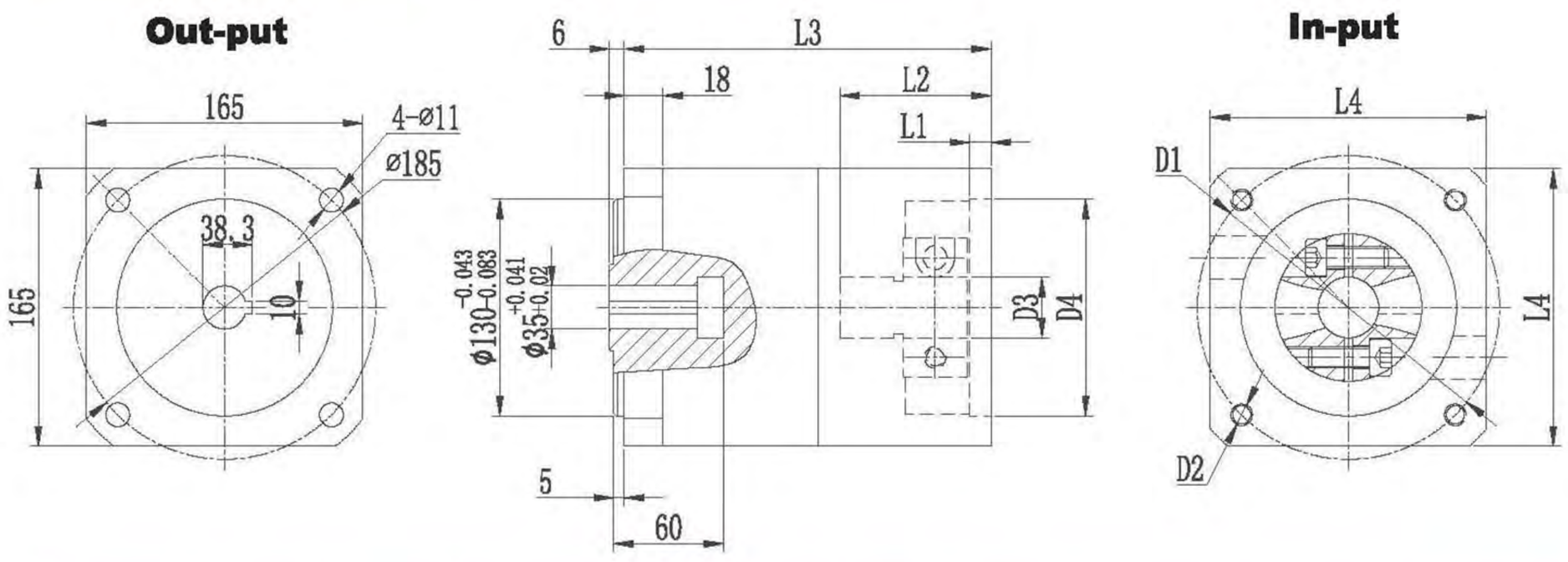
## S2(Shaft with key-way)




## S1 (Shaft)




## S3 (Hollow Shaft)




| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|
| 2.0KW | 145 | 4-M8 | ϕ22/24(F7) | 62 | 110(F7) | 10 | 150 | 177 | 224 | 271 |
| 3.0KW | 200 | 4-M12 | ϕ35(F7) | 82 | 114.3(F7) | 10 | 180 | 197 | 244 | 291 |

**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

## ZFR SERIES TECHNICAL SPECIFICATIONS

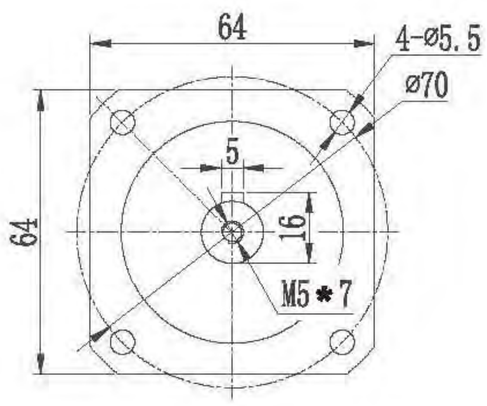
| Specification | Units | Stage | Ratio | ZFR60 | ZFR80 | ZFR120 | ZFR160 |
|---|---|---|---|---|---|---|---|
| Rated Output Torque/$T_{2N}$ | NM | L1 | 3 | 25 | 50 | 140 | 310 |
| | | | 4 | 42 | 120 | 260 | 800 |
| | | | 5 | 40 | 110 | 240 | 680 |
| | | | 7 | | | 105 | 470 |
| | | | 8 | 18 | 40 | | |
| | | | 10 | 12 | 20 | 100 | 200 |
| | | L2 | 9 | 42 | 50 | 140 | 340 |
| | | | 12 | 40 | 50 | 200 | 680 |
| | | | 15 | 40 | 50 | 200 | 680 |
| | | | 16 | 42 | 110 | 260 | 800 |
| | | | 20 | 42 | 110 | 260 | 800 |
| | | | 25 | 40 | 100 | 240 | 680 |
| | | | 28 | | | 235 | 800 |
| | | | 30 | 25 | 65 | 235 | 680 |
| | | | 32 | 45 | 125 | | |
| | | | 35 | 40 | | 140 | 590 |
| | | | 40 | 42 | 100 | 260 | 680 |
| | | | 50 | 23 | | 112 | 340 |
| | | | 64 | 18 | 50 | | |
| | | | 70 | | | 105 | 470 |
| | | | 100 | | | 105 | 200 |
| | | L3 | 60 | 45 | 110 | 260 | 800 |
| | | | 64 | 42 | 120 | 260 | 800 |
| | | | 80 | 42 | 110 | 260 | 680 |
| | | | 100 | 42 | 110 | 260 | 800 |
| | | | 120 | 40 | 110 | 260 | 800 |
| | | | 125 | 23 | 110 | 230 | 700 |
| | | | 140 | 25 | | 260 | 800 |
| | | | 150 | 23 | 110 | 260 | 800 |
| | | | 160 | 45 | 120 | 260 | 800 |
| | | | 200 | 40 | 90 | 230 | 800 |
| | | | 250 | 42 | 110 | 200 | 680 |
| | | | 256 | 45 | 125 | | |
| | | | 320 | 41 | 110 | | |
| | | | 350 | | | 112 | 515 |
| | | | 400 | | 90 | 112 | 515 |
| | | | 500 | | 90 | 112 | 515 |
| | | | 512 | 18 | 55 | | |
| | | | 700 | | | 112 | 515 |
| | | | 1000 | | | 112 | 200 |
| | | L4 | Above 4 Stages Please Contact Us | | | | |
| Backlash (arcmin ) | | L1 | | ≤10 | ≤10 | ≤10 | ≤10 |
| | | L2 | | ≤12 | ≤12 | ≤12 | ≤12 |
| | | L3 | | ≤15 | ≤15 | ≤15 | ≤15 |
| Max.Radial Force | | N | | 265 | 400 | 1240 | 3700 |
| Max.Axial Force | | N | | 200 | 420 | 1000 | 3500 |
| Emergency Stop Torque | | NM | | 2 Times Rated Torque | | | |
| Effiency ( η ) | | L1 | | 96% | | | |
| | | L2 | | 94% | | | |
| | | L3 | | 90% | | | |
| Rated Input Speed(rpm) | | | | 3500 | 3500 | 3000 | 2000 |
| Max.Input Speed(rpm) | | | | 7000 | 6000 | 5000 | 3500 |
| GWT ( kg ) | | L1 | | 1.7 | 4.35 | 10 | 22 |
| | | L2 | | 2.2 | 4.9 | 13 | 27 |
| | | L3 | | 3 | 5.7 | 15 | 32 |
| Service Life | | h | | 20000 Hrs | | | |
| Noise | | dB | | ≤65 | ≤65 | ≤65 | ≤65 |
| Lubrication | | | | Whole-life Free Service(Synthetic Complex Soap Grease) | | | |
| Operating Temperature | | | | '-10℃-+90℃ ( Beyond Temperature Please Contact Us ) | | | |
| Mounting | | | | Any Position | | | |
| Protect Class | | | | IP65 | | | |

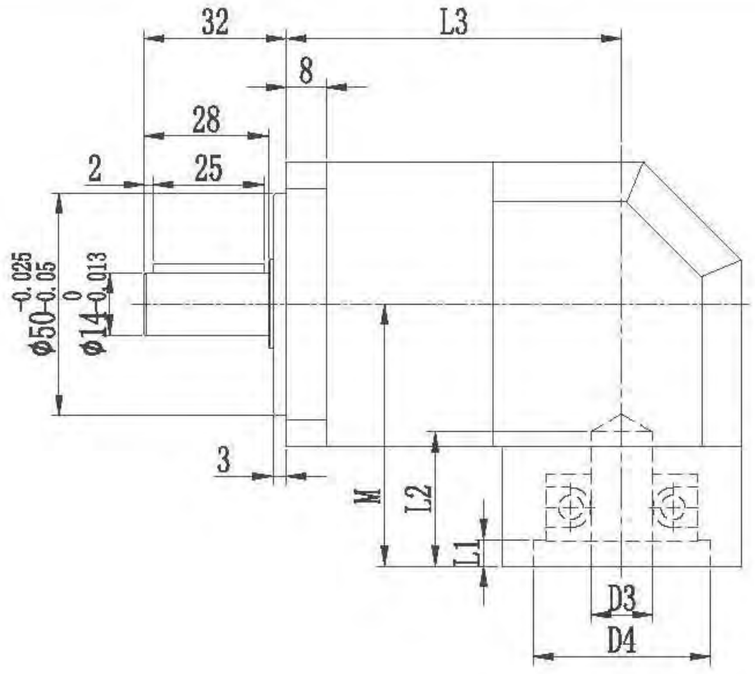
1. About L1 specifications major are measured on 5 : 1 gear ratio.
2. Ratios; ( i = Nin /Out )
3. Backlash : Measured on 2% of nominal output torque.
4. Max. Radial and Axial Load; Applied to the output shaft center, and 50% of duty time,and at 100rpm.
5. Duty Cycle < 60%, Average Lifetime = List value; Duty Cycle >= 60%, Average Lifetime < 50% List value.
6. Noise Level; Distance 1m, and measured on idle running, and at nominal input speed.

# ZFR 60 Drawing Diemensions

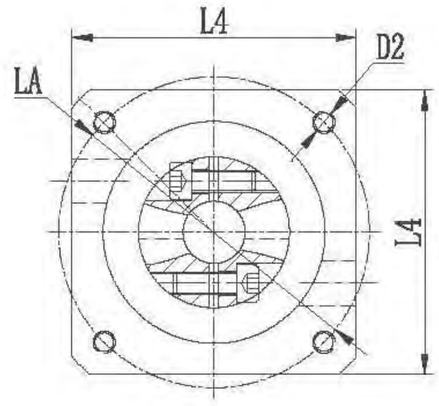
## S2(Shaft with key-way)

### Out-put



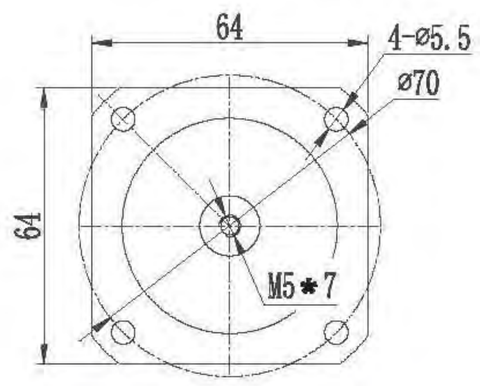



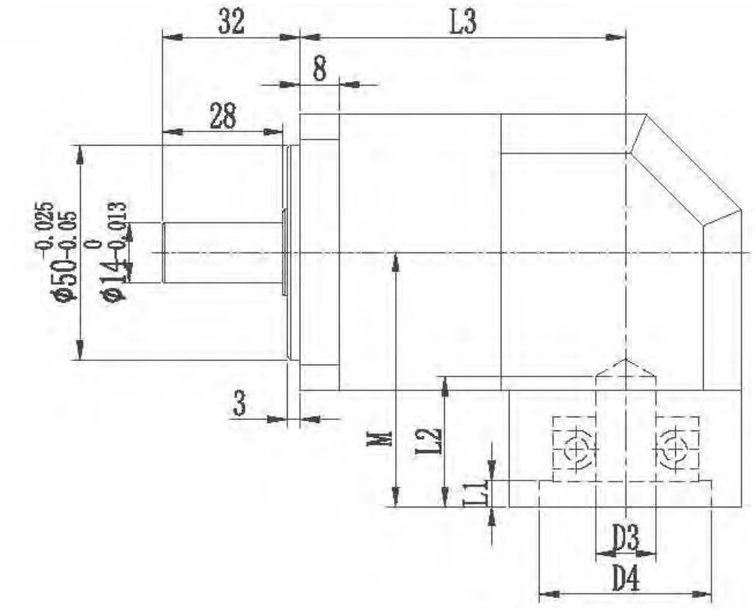

### In-put



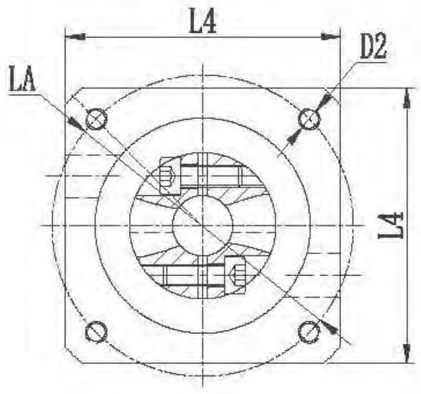

## S1 (Shaft)

### Out-put



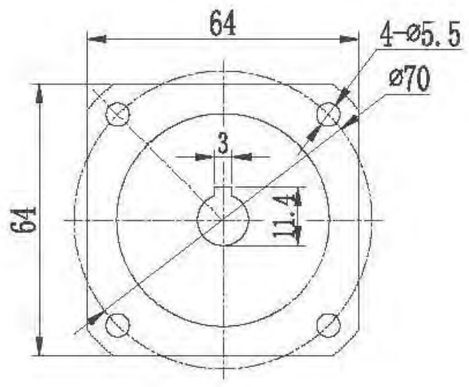



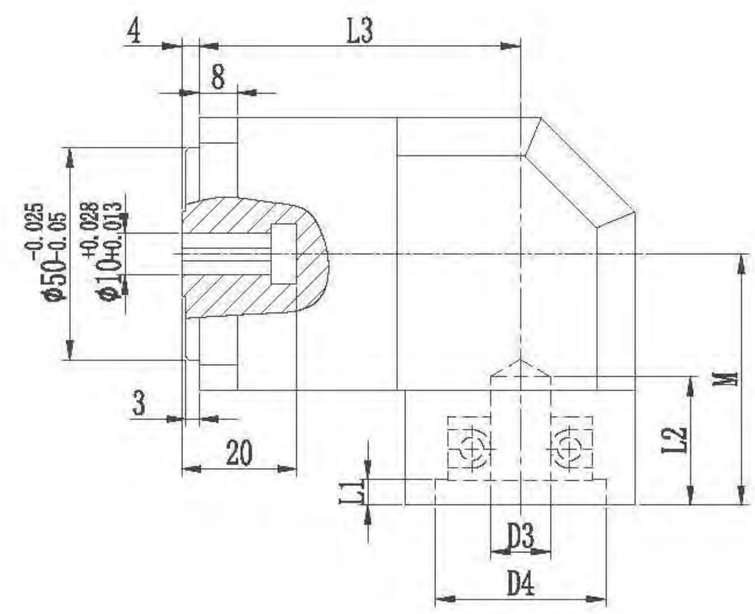

### In-put



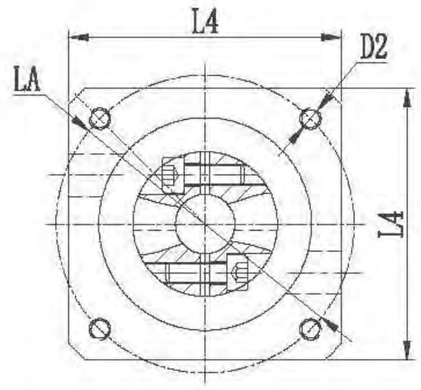

## S3 (Hollow Shaft)

### Out-put




### In-put



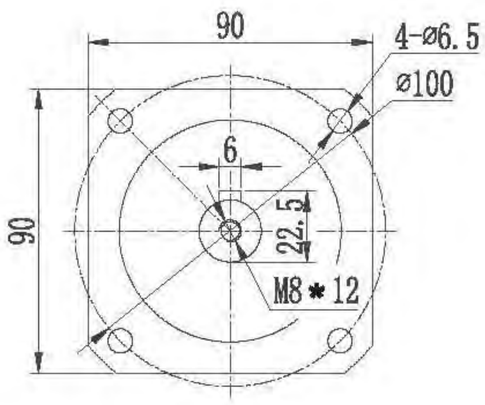

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.2KW | 70 | 4-M4/M5 | ø11(F7) | 35 | ø50(H7) | 5 | 64 | 72 | 96 | 114 | 131 |
| 0.4KW | 70 | 4-M4/M5 | ø14(F7) | 35 | ø50(H7) | 5 | 64 | 72 | 96 | 114 | 131 |

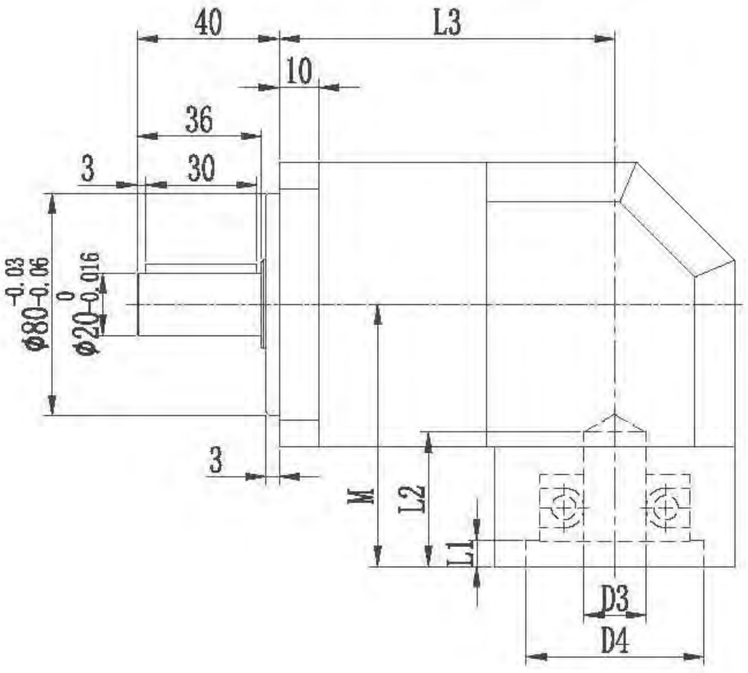
**Note:Above mentioned size based on standard product, we are accept any others change.**

# ZFR 80 Drawing Diemensions

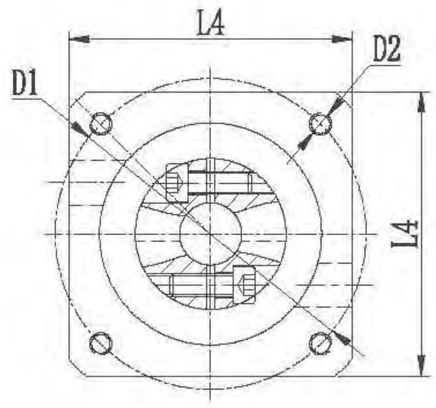
## S2(Shaft with key-way)

**Out-put**



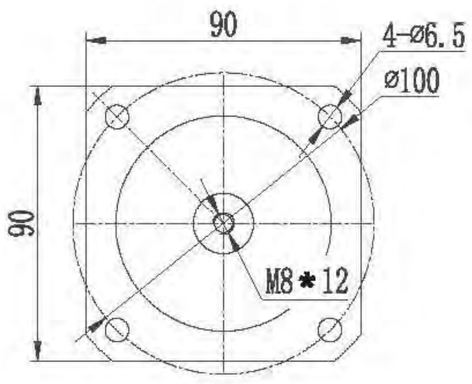



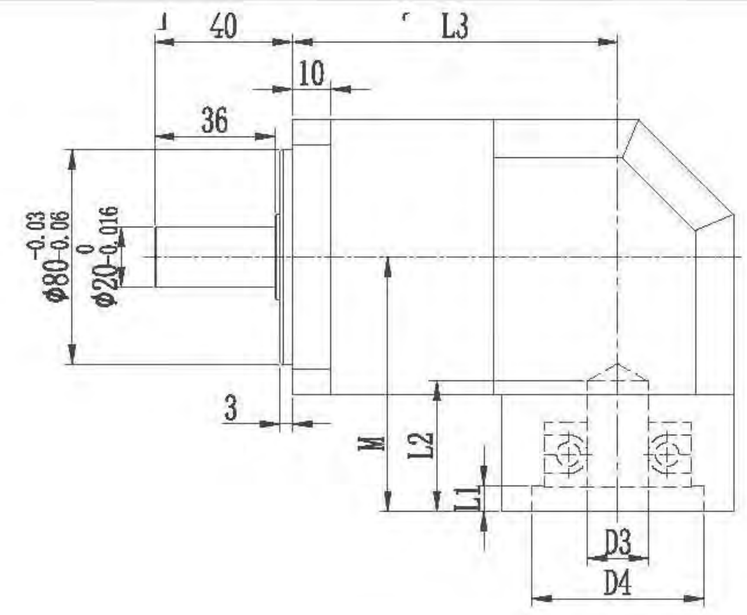

**In-put**



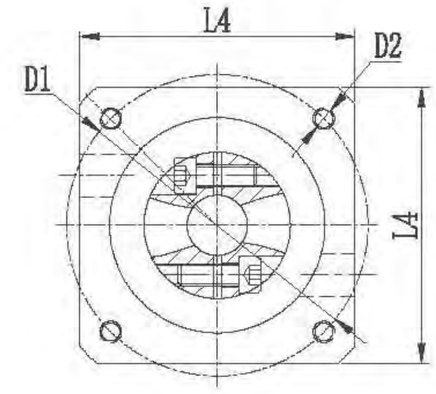

## S1 (Shaft)

**Out-put**



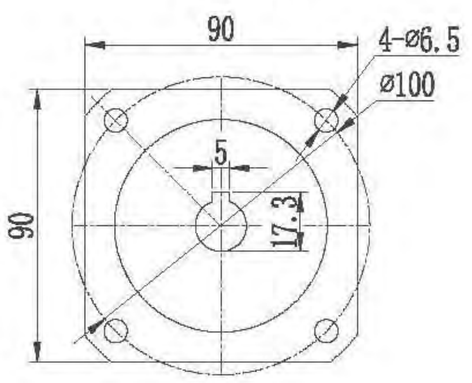



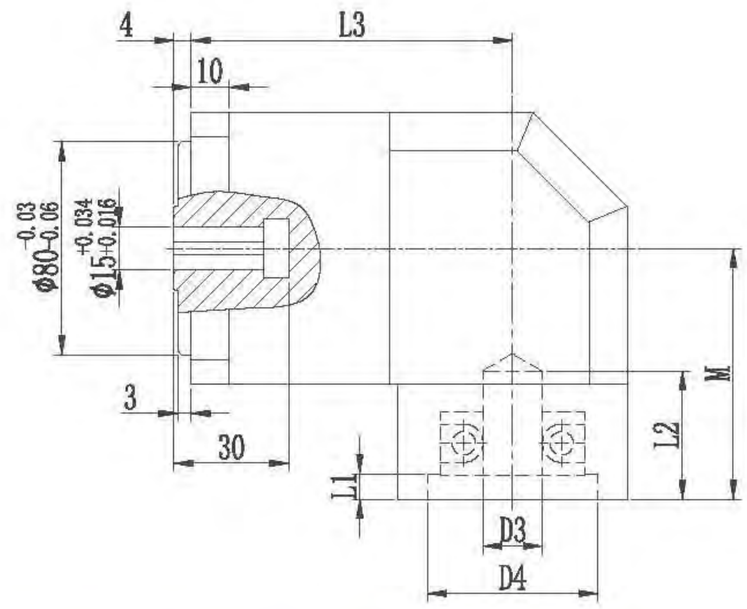

**In-put**



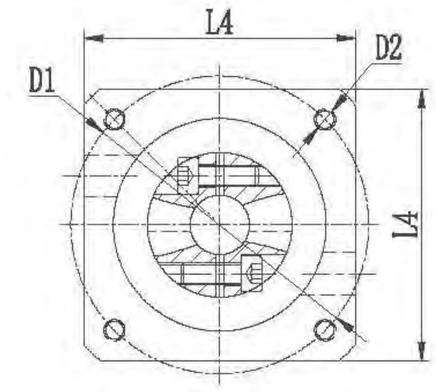

## S3 (Hollow Shaft)

**Out-put**




**In-put**



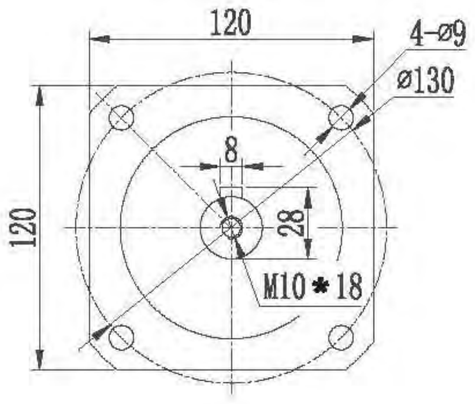

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.4KW | 70 | 4-M4/M5 | φ14(F7) | 45 | 50(H7) | 5 | 85 | 143 | 119 | 137 | 155 |
| 0.75KW | 90 | 4-M5/M6 | φ19(F7) | 45 | 70(H7) | 5 | 85 | 143 | 119 | 137 | 155 |

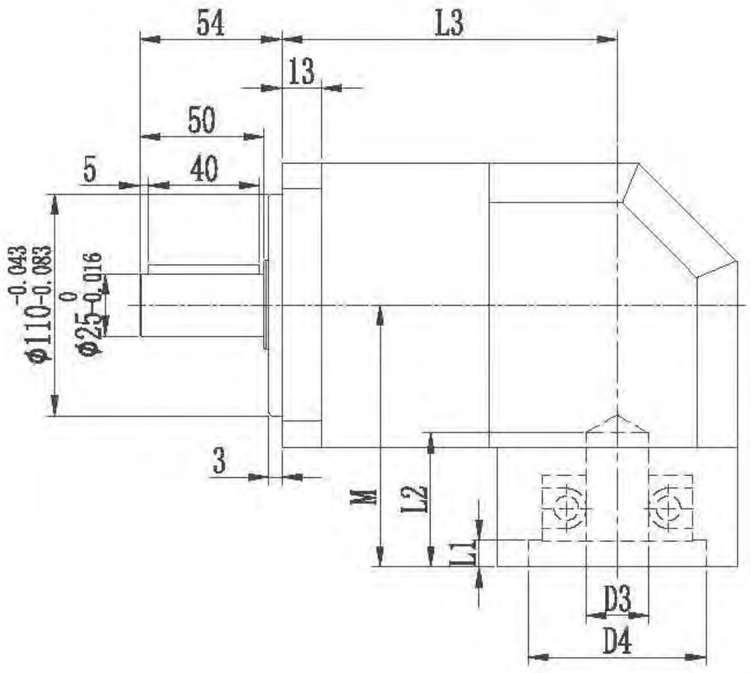
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZFR 120 Drawing Diemensions

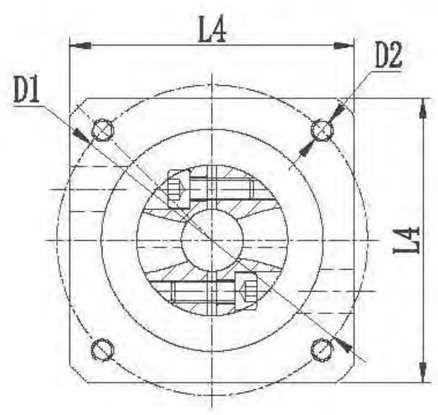
## S2(Shaft with key-way)

**Out-put**



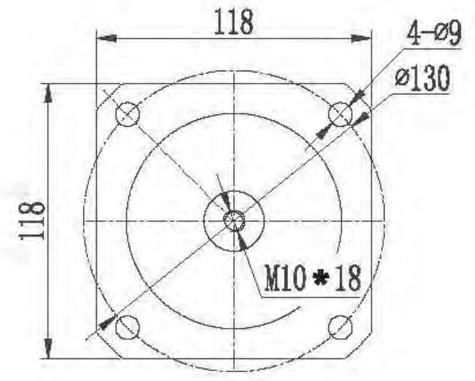



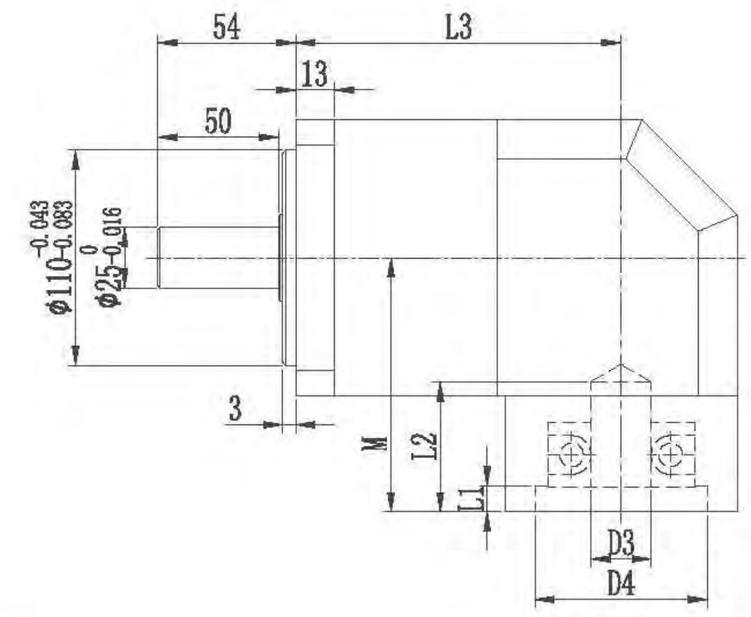

**In-put**



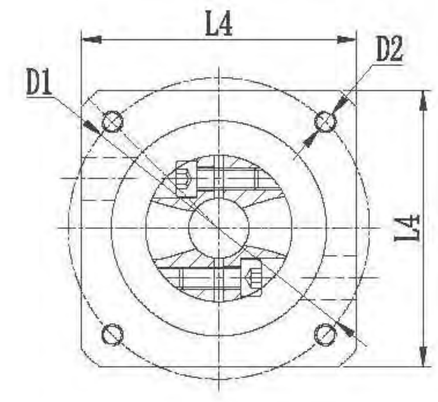

## S1 (Shaft)

**Out-put**



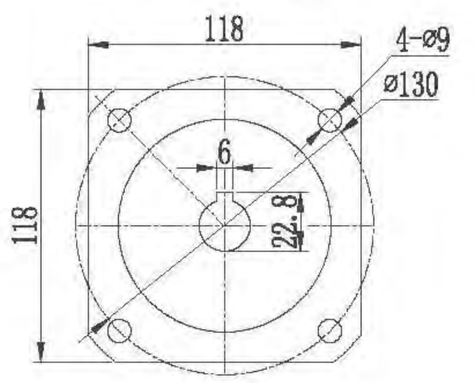



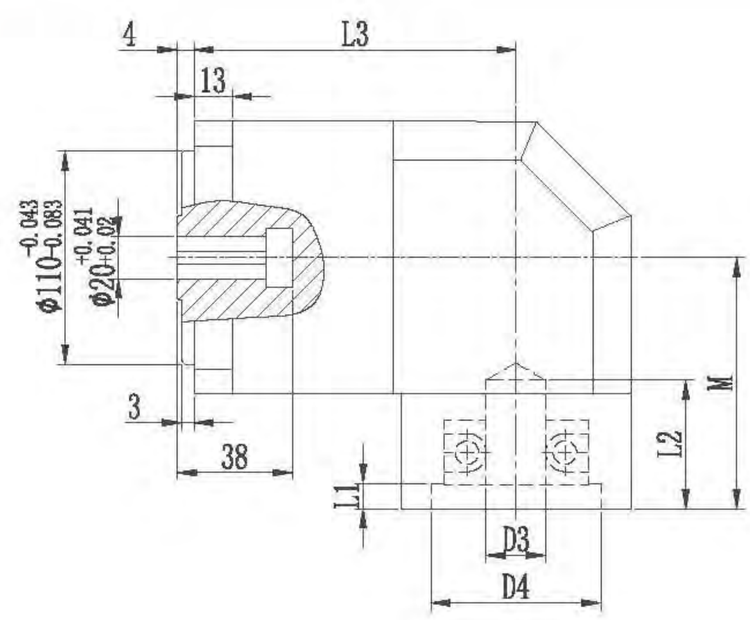

**In-put**



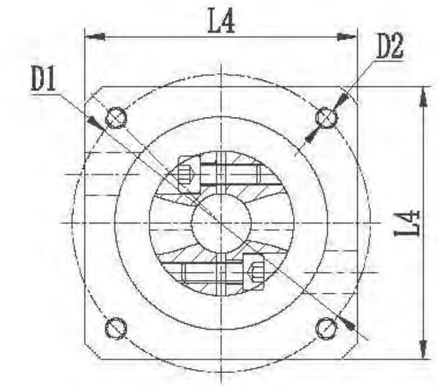

## S3 (Hollow Shaft)

**Out-put**




**In-put**



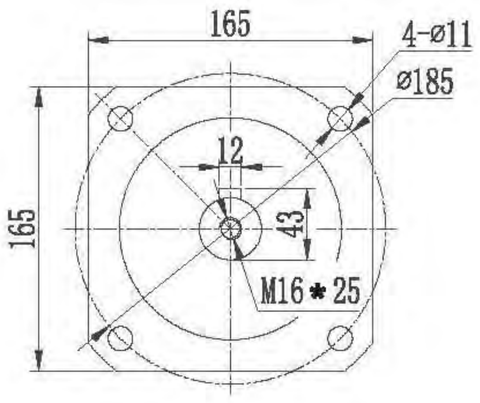

| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.75KW | 90 | 4-M6 | ø19(F7) | 54 | ø70(H7) | 10 | 130 | 114 | 151 | 183 | 215 |
| 1KW/1.5KW | 145/130 | 4-M8 | ø22/24(F7) | 64 | ø110(H7) | 10 | 130 | 124 | 151 | 183 | 215 |

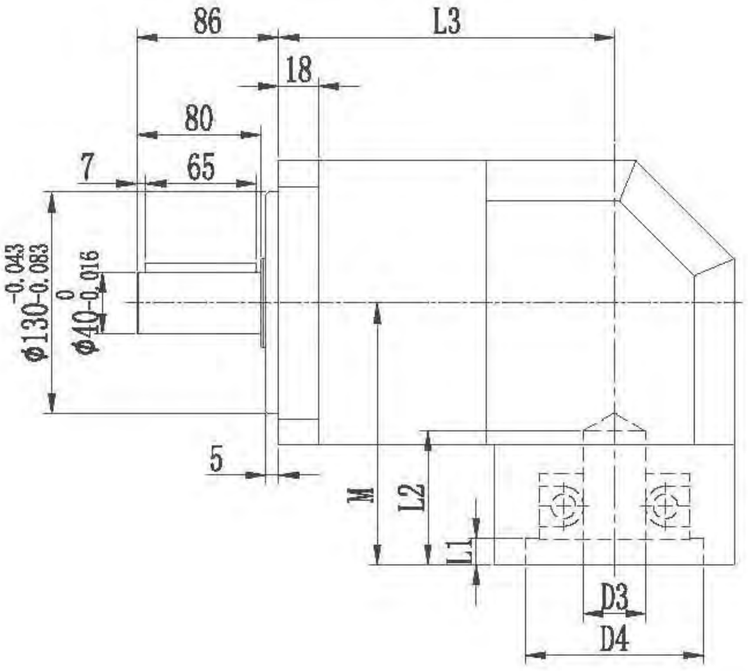
**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

# ZFR 160 Drawing Diemensions

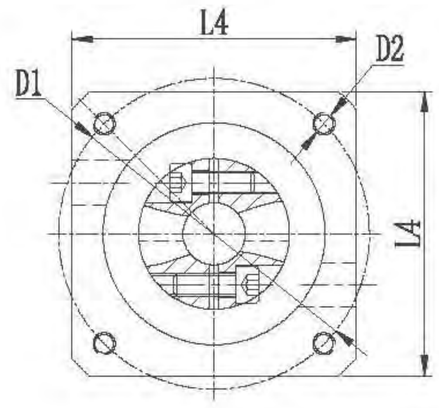
## S2(Shaft with key-way)

**Out-put**



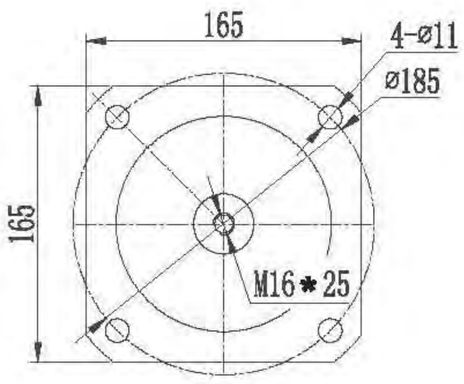



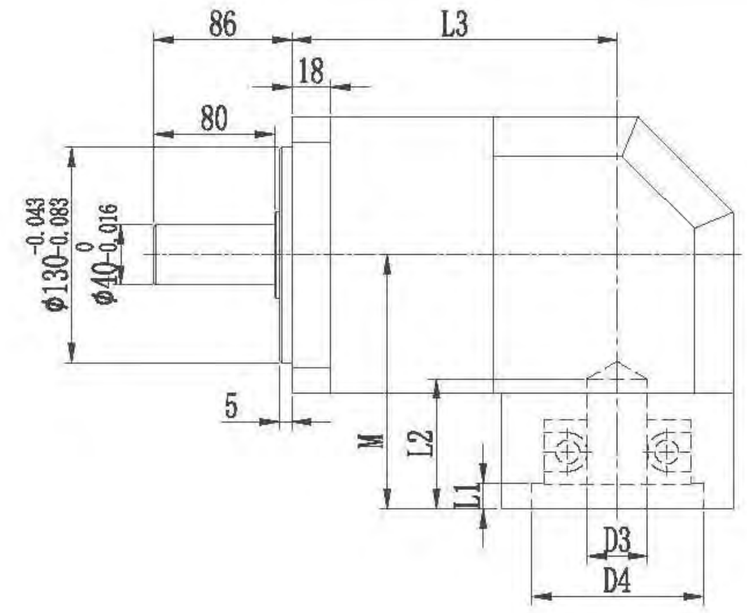

**In-put**



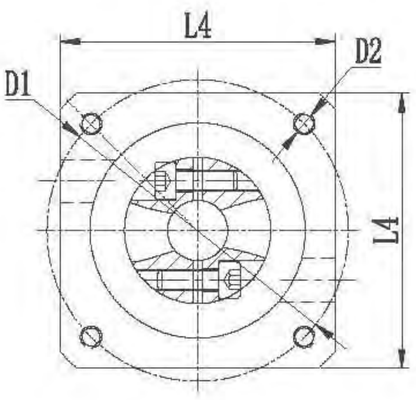

## S1 (Shaft)

**Out-put**



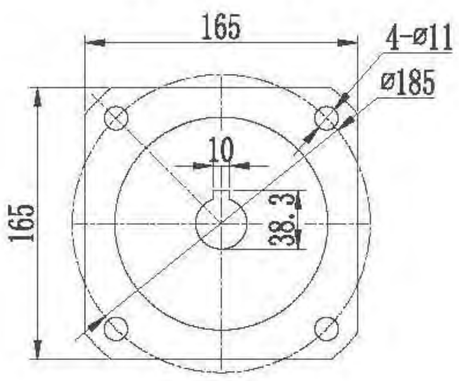



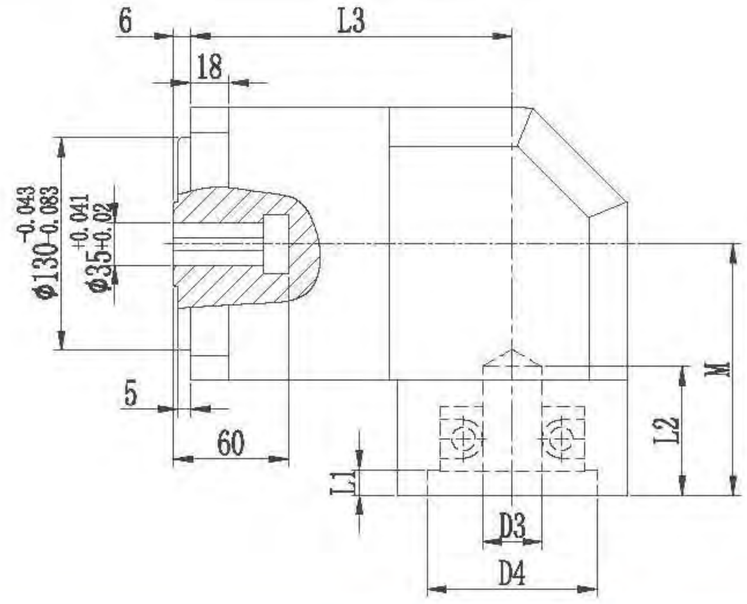

**In-put**



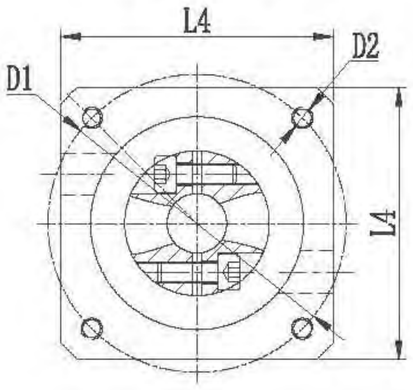

## S3 (Hollow Shaft)

**Out-put**




**In-put**




| Motor | D1 | D2 | D3 | L2 | D4 | L1 | L4 | M | L1(Stage 1) | L2(Stage 2) | L3(Stage 3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.0KW | 145 | 4-M8 | φ22(F7) | 62 | 110(H7) | 10 | 150 | 150 | 198 | 245 | 292 |
| 3.0/4KW | 200 | 4-M12 | φ35(F7) | 82 | 114.3(H7) | 10 | 180 | 160 | 198 | 245 | 292 |

**Note:Above mentioned size based on standard product,**
**we are accept any others change.**

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