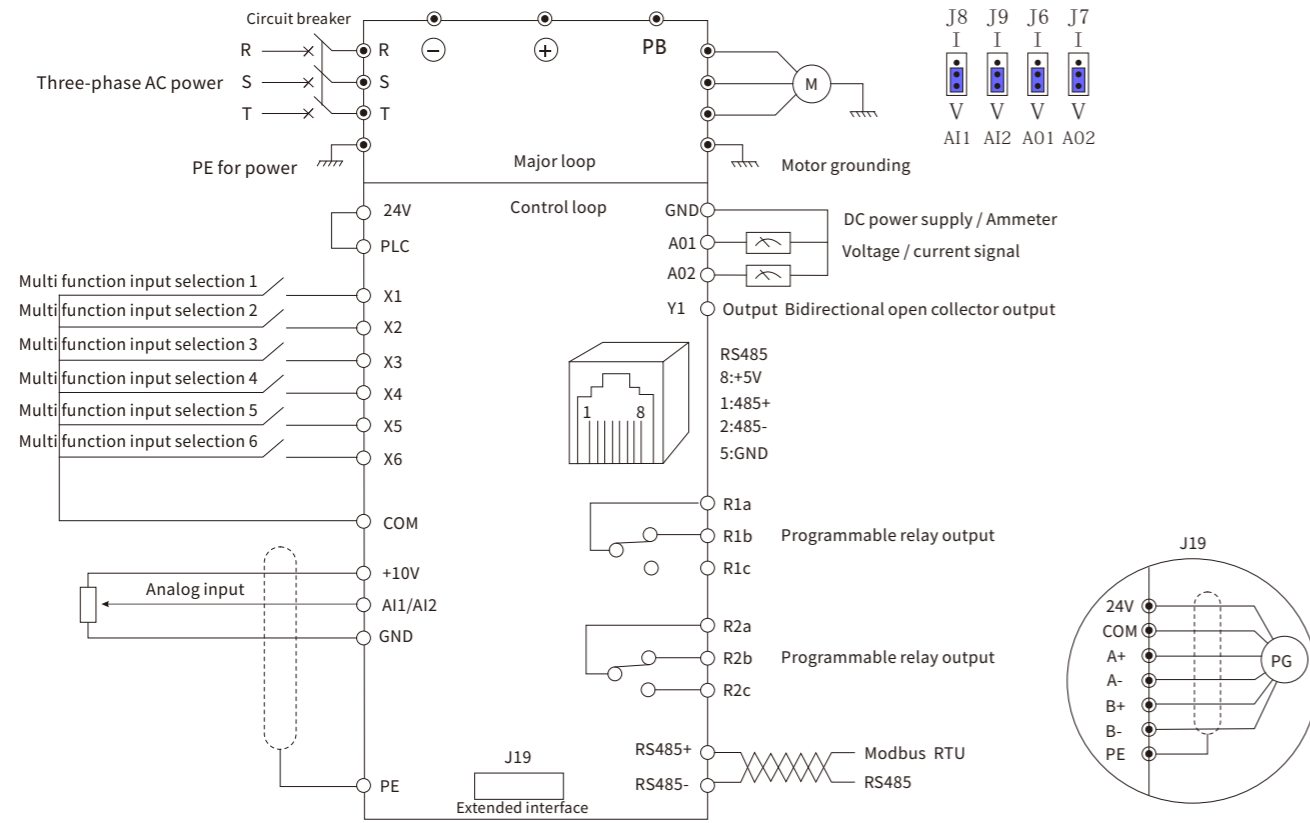


Wiring Diagram Of Product Terminal

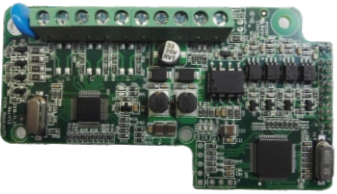
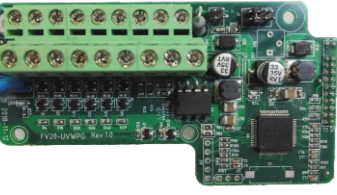


Kinco

High
Performance
VFD

Kinco FV20 Series

FV20 Optional Expansion Card

| Picture | Name | Description |
|-------------------------------------------------------------------------------------|--------------------------------|---------------------------------------------------|
|  | Rotate transformer PG card | Support rotate encoder, and support CAN function. |
|  | Collector differential encoder | Support ABZUVW encoder and CAN function |



Kinco® Automation

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K1C20-2101

Product Positioning

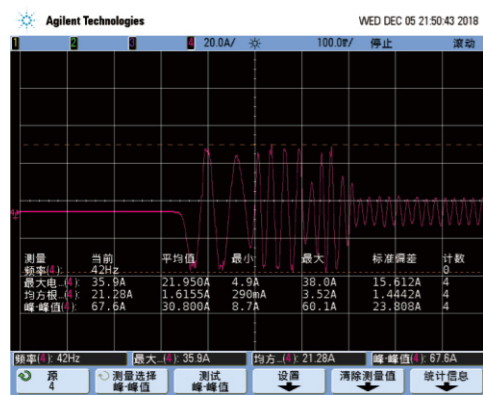
Fv20: high cost performance vector VFD, gradually replacing FV100 series

Product Features

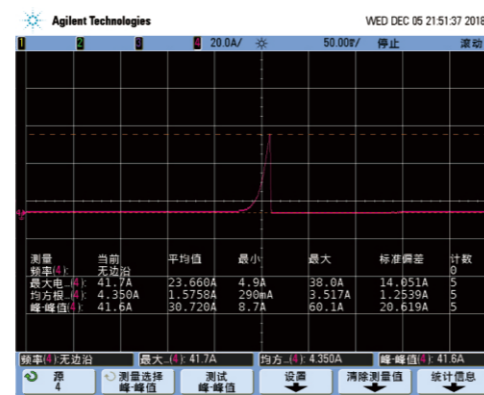
- Built in EMC filter to optimize the electrical environment of EMC field equipment



- Low speed, high torque, small torque ripple, automatic current limiting, avoid over current fault caused by sudden load or other reasons



Automatic current limiting function on



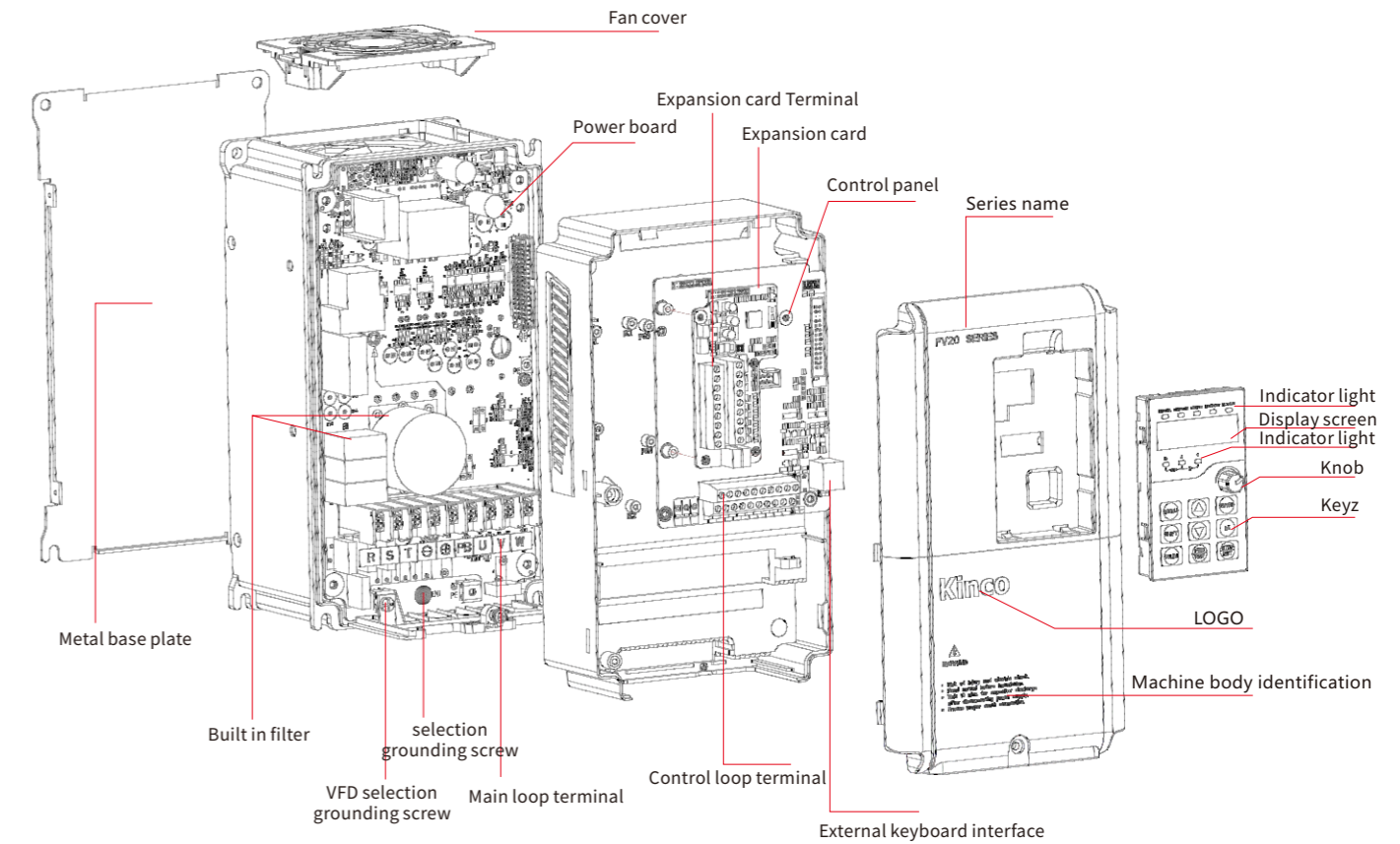
Automatic current limiting function off

- Optimized structure design, high power density, built-in brake unit under 45KW
- Strict reliability design, support the company background monitoring software

Product Model Description

FV20-4T-0150G/0185L-A-037

| | | | |
|-----|-----------------------------------|---------|------------------------------|
| FV | Closed loop vector | 037 | No.37 software non-standard |
| 2 | The second generation product | Nothing | Standard configuration RS485 |
| 0 | Standard type | A | CAN communication |
| ... | Other types | 0150G | 15KW constant torque |
| 4T | 3-phase power supply 380V AC | 0185L | 18.5KW constant power |
| 2s | Single phase power supply 220v AC | | |



Forward / Reverse indicator

ON:Reverse
OFF: Forward

Current limit indicator

ON: Current limit
OFF: No limit

Command source indicator

LOC:ON: Local control LOC
REMOTE:OFF: Remote control

Fault indicator

ON: Fault alarm
OFF: Normal

Running indicator

ON :Running;
Flashing:Self-learning status
OFF: shutdown state

Unit indicator

Potentiometer

MENU key

Add / Sub key

SHIFT key

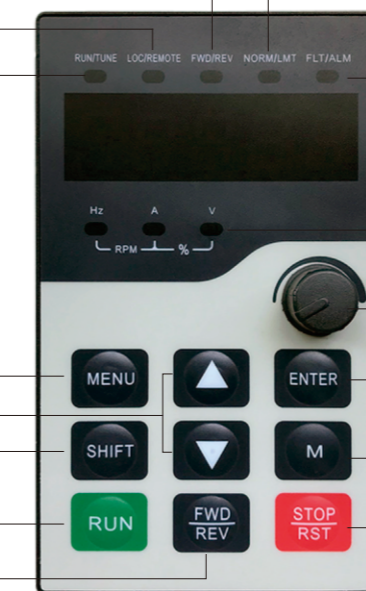
Run key

Forward / Reverse key

ENTER key

Multi-function

STOP / RESET key



Technical Specification

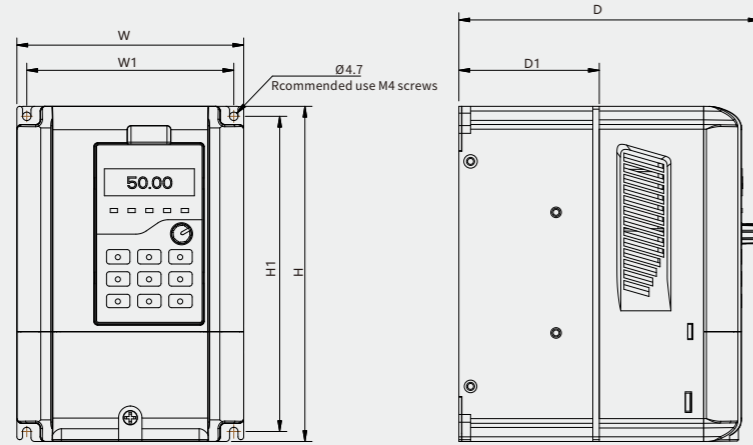
| Item | Description | |
|-------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input | Rated Voltage/ frequency | single-phase,220V AC,50HZ/60HZ;three-phase,380V AC,50HZ/60HZ three-phase,220V AC,50HZ/60Hz |
| | Applicable voltage range | 4T:320V~460V; 2T/2S:180V~260V; Voltage unbalancedness: <3%; Frequency tolerance: ±5% |
| Output | Rated voltage | 0~Rated input voltage |
| | Frequency | 0Hz~300Hz ((Customized 0Hz~3000Hz) |
| | Overload capacity | G Type:150% 1 minute, 180% 10 seconds; L type :110% 1 minute, 150% 1 second |
| Control characteristics | Control method | Vector control without PG , Vector control with PG , V/F contro |
| | Modulation method | Space vector PWM modulation |
| | Starting Torque | 0.5Hz: 150% of rated torque(Vector control without PG), 0.0Hz: 200% of rated torque(Vector control with PG) |
| | Frequency accuracy | Digital setting: Max. frequency× ±0.01%; Analog setting: Max. frequency× ±0.2% |
| | Frequency resolution | Digital setting: 0.01Hz; Analog setting : Max. frequency×0.05% |
| | Torque boost | Manual torque boost: 0%~30.0%(Only V / F mode is valid) |
| | V/F pattern | 4 patterns:1 pattern is V/F curve setting by users. 3 patterns are drop torque characters curve (2.0 power,1.7 power,1.2 power) |
| | Acceleration /Deceleration curve | Linear or S-curve acceleration and deceleration mode; Four kinds of acceleration and deceleration time |
| | Auto current limit | The current is automatically limited during operation to prevent frequent over-current fault tripping |
| Customized function | Jogging | Jogging frequency range: 0.00Hz~50.00Hz. Jogging acceleration/deceleration time: 0.1~60.0s. |
| | Multiple speed operation | Implement multiple speed operation by digital inputs. |
| Operation function | Operation command | Keypad setting, Terminal setting, Communication setting |
| | Frequency command | Digital setting, Analog voltage setting, Analog current setting, Pulse setting |
| | Auxiliary frequency setting | Implement flexible auxiliary frequency trim and frequency synthesis. |
| | Pulse output | 0.1kHz ~ 100kHz pulse square wave signal output, can achieve the set frequency, output frequency and other physical quantities output |
| Operation panel | Analog output | 2 channels analog output(0/4~20mA or 0/2~10V);Output setting frequency ,output frequency and so on |
| | LED Display | Display setting frequency, output frequency, output voltage, output current and so on, about 20 parameters. |
| | Parameters copy | Copy parameters by operation panel. |
| Protection function | Keys lock and function selection | Lock part of keys or all the keys. Define the function of part of keys to prevent misoperation |
| | | Overcurrent protection, Overvoltage protection, Undervoltage protection, Overheat protection, Overload protection, Open phase protection (optional), etc. |
| Environment | Operating site | Indoor, free from direct sunlight, dust, corrosive gas, combustible gas, oil mist, water vapor, drip or salt |
| | Altitude | Derated above 1000m, the rated output current shall be decreased by 10% for every rise of 1000m |
| | Ambient temperature | - 10 °C~ + 40 °C (The ambient temperature is between 40 °C and 50 °C, reduce the rating for use) |
| | Humidity | 5%~95%RH, No water condensation |
| | Vibration | Less than 5.9 M / S2 (0.6g) |
| Structure | Storage temperature | -40°C~+70°C |
| | Protection class | IP20 |
| Installation method | Cooling method | Self cooling, air cooling, with fan control |
| | | Wall mounted, cabinet mounted |
| Effeciency | | 45kW or below: ≥93%; 55kW or above: ≥95% |

Technical Specification

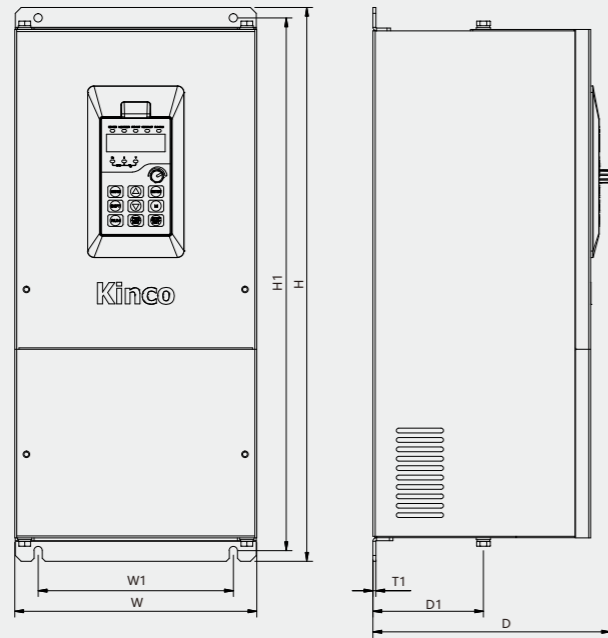
| VFD model | Power capacity KVA | Input current A | Output current A | Adaptive motor KW |
|--------------------------------------------------|--------------------|-----------------|------------------|-------------------|
| 220V,50/60HZ:Singel-phase 220V AC,50/60HZ | | | | |
| FV20-2S-0004G | 1.0 | 5.3 | 2.5 | 0.4 |
| FV20-2S-0007G | 1.5 | 8.2 | 4.0 | 0.75 |
| FV20-2S-0015G | 3.0 | 14.0 | 7.5 | 1.5 |
| FV20-2S-0022G | 4.0 | 23.0 | 10.0 | 2.2 |
| 380V, 50/60HZ:three-phase 380V AC,50/60HZ | | | | |
| FV20-4T-0007G/0015L | 1.5 | 3.4 | 2.3 | 0.75 |
| FV20-4T-0015G/0022L | 3.0 | 5.0 | 3.7 | 1.5 |
| FV20-4T-0022G/0037L | 4.0 | 5.8 | 5.5 | 2.2 |
| FV20-4T-0037G/0055L | 5.9 | 10.5 | 8.8 | 3.7 |
| FV20-4T-0055G/0075L | 8.5 | 14.5 | 13.0 | 5.5 |
| FV20-4T-0075G/0110L | 11.0 | 20.5 | 17.0 | 7.5 |
| FV20-4T-0110G/0150L | 17.0 | 26.0 | 25.0 | 11 |
| FV20-4T-0150G/0185L | 21.0 | 35.0 | 32.0 | 15 |
| FV20-4T-0185G/0220L | 24.0 | 38.5 | 37.0 | 18.5 |
| FV20-4T-0220G/0300L | 30.0 | 46.5 | 45.0 | 22.0 |
| FV20-4T-0300G/0370L | 40.0 | 62.0 | 60.0 | 30.0 |
| FV20-4T-0370G/0450L | 50.0 | 76.0 | 75.0 | 37.0 |
| FV20-4T-0450G/0550L | 60.0 | 92.0 | 90.0 | 45.0 |
| FV20-4T-0550G/0750L | 72.0 | 113.0 | 110.0 | 55.0 |
| FV20-4T-0750G/0900L | 100.0 | 157.0 | 152.0 | 75.0 |
| FV20-4T-0900G/1100L | 116.0 | 180.0 | 176.0 | 90.0 |
| FV20-4T-1100G/1320L | 138.0 | 260.0 | 210.0 | 110.0 |
| FV20-4T-1320G/1600L | 167.0 | 232.0 | 252.0 | 132.0 |
| FV20-4T-1600G/1850L | 200.0 | 282.0 | 304.0 | 160.0 |
| FV20-4T-1850G/2000L | 230.0 | 326.0 | 350.0 | 185.0 |
| FV20-4T-2000G/2200L | 250.0 | 352.0 | 380.0 | 200.0 |
| FV20-4T-2200G/2500L | 280.0 | 385.0 | 426.0 | 220.0 |
| FV20-4T-2500G/2800L | 320.0 | 437.0 | 470.0 | 250.0 |
| FV20-4T-2800G/3150L | 445.0 | 491.0 | 520.0 | 280.0 |
| FV20-4T-3150G/3550L | 500.0 | 580.0 | 600.0 | 315.0 |
| FV20-4T-3550G/4000L | 565.0 | 624.0 | 665.0 | 355.0 |
| FV20-4T-4000G/4500L | 630.0 | 670.0 | 690.0 | 400.0 |
| FV20-4T-6000G | 990.0 | 1035.0 | 1050.0 | 600.0 |
| FV20-4T-8000G | 1250.0 | 1300.0 | 1350.0 | 800.0 |
| FV20-4T-10000G | 1500.0 | 1650.0 | 1725.0 | 1000.0 |

Size

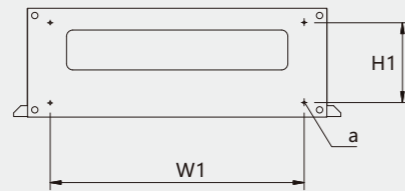
The overall dimension of VFD is shown in the figure below



Applicable model : FV20-4T-0450G/0550L Models below



Applicable model : FV20-4T-0550G/0750L~FV20-4T-8000G



Applicable model : FV20-4T-10000G Model

Mechanical Parameters

| VFD model (G: Constant torque load; L: Fan and pump load) | Outline and installation dimensions (mm) | | | | | | | Approximate weight (Gross weight) |
|-----------------------------------------------------------------|------------------------------------------|------|-----|--------------------------------------------|------|-------|-----------------|--------------------------------------|
| | W | H | D | W1 | H1 | D1 | Mounting hole d | |
| FV20-2S(2T)-0004G | 126 | 186 | 167 | 115 | 175 | 78 | 4.7 | 2 |
| FV20-2S(2T)-0007G | | | | | | | | |
| FV20-2S(2T)-0015G | | | | | | | | |
| FV20-2S(2T)-0022G | | | | | | | | |
| FV20-4T-0007G/0015L | | | | | | | | |
| FV20-4T-0015G/0022L | | | | | | | | |
| FV20-4T-0022G/0037L | | | | | | | | |
| FV20-4T-0037G/0055L | 146 | 256 | 181 | 131 | 243 | 95 | 5.8 | 6 |
| FV20-4T-0055G/0075L | | | | | | | | |
| FV20-4T-0075G/0110L | | | | | | | | |
| FV20-4T-0110G/0150L | 170 | 320 | 207 | 151 | 303 | 118.5 | 5.8 | 8 |
| FV20-4T-0150G/0185L | | | | | | | | |
| FV20-4T-0185G/0220L | | | | | | | | |
| FV20-4T-0220G/0300L | 225 | 360 | 224 | 206 | 341 | 130 | 6.5 | 9 |
| FV20-4T-0300G/0370L | | | | | | | | |
| FV20-4T-0370G/0450L | | | | | | | | |
| FV20-4T-0450G/0550L | | | | | | | | |
| FV20-4T-0550G/0750L | 285 | 617 | 258 | 220 | 596 | 132 | 10 | 35 |
| FV20-4T-0750G/0900L | | | | | | | | |
| FV20-4T-0900G/1100L | | | | | | | | |
| FV20-4T-1100G/1320L | 320 | 639 | 317 | 240 | 620 | 152 | 11 | 60 |
| FV20-4T-1320G/1600L | | | | | | | | |
| FV20-4T-1600G/1850L | | | | | | | | |
| FV20-4T-1850G/2000L | 530 | 940 | 380 | 340 | 910 | 206 | 14 | 114 |
| FV20-4T-2000G/2200L | | | | | | | | |
| FV20-4T-2200G/2500L | | | | | | | | |
| FV20-4T-2500G/2800L | 690 | 1006 | 380 | 500 | 974 | 207 | 14 | 156 |
| FV20-4T-2800G/3150L | | | | | | | | |
| FV20-4T-3150G/3550L | | | | | | | | |
| FV20-4T-3550G/4000L | 810 | 1228 | 400 | 520 | 1196 | 209 | 14 | 225 |
| FV20-4T-4000G/4500L | | | | | | | | |
| FV20-4T-6000G | 810 | 1328 | 400 | 520 | 1296 | / | 14 | 450 |
| FV20-4T-8000G | | | | | | | | |
| FV20-4T-10000G | | | | | | | | |
| FV20-4T-10000G | 1480 | 1807 | 600 | Seat type installation W1*H1=1040*440 d=14 | | | | 460 |