

# 518 HV Centrifuge



The 518 High Volume (HV) centrifuge is a unit which replaces the operation of two standard 518 centrifuges combined through an increased fluid handling capacity and improved solids separation.

The 518 HV centrifuge is designed to handle higher fluid processing rates by providing more power and improving the fluid flow in and out of the machine.

Increasing the available power for the main (50 Hp) and back drive (15 Hp) allows more fluid to be fed into the bowl while providing the necessary torque to remove the increased solids load resulting from the higher feed rate.

The unit also has an improved fluid accelerator to reduce turbulence and bring the fluid velocity (both magnitude and direction) up to the bowl rotating speed and direction as quick as possible, thus reducing the energy consumed for fluid acceleration and reserving more energy for solids conveyance.

The unit contains a Quasi-Axial flow scroll which increases the flow area inside the bowl thus reducing the fluid velocity and hence, the onset of turbulence.

## Features

### Performance

- Quasi-Axial scroll
- Tungsten carbide tiles (scroll)
- High bowl speed
- Variable bowl and scroll speed<sup>(1)</sup>
- Fixed bowl and differential speed<sup>(2)</sup>
- Variable feed pump speed
- Split pillow blocks
- Stainless steel rotating assembly
- Perfectly balanced rotating assembly
- PLC control<sup>(1)</sup>

### Safety

- Vibration sensor
- Torque limiter
- Micro switches on vessel and guards
- Bearing temperature sensors<sup>(1)</sup>
- Pressure sensors<sup>(3)</sup>
- Hydraulic oil temperature sensor<sup>(3)</sup>
- Speed sensors<sup>(3)</sup>

(1) Not applicable to Fixed Drive

(2) Only applicable to Fixed Drive

(3) Only on Fully Hydraulic Drive types

## Benefits

### Performance

- Quasi-Axial scroll provides an increased flow area which minimizes the turbulence
- Increased flights wear resistance thereby reducing maintenance requirements
- High bowl speed assures a high G-Force, solids removal efficiency percentage and finest cut points.
- Complete control of G-Force and differential settings for improved separation efficiency
- Six bowl speed/differential combinations on fixed drive units for enhanced simplicity and efficiency
- Split pillow blocks for increased protection against contamination, extended material life and easier maintenance
- Highly corrosion resistant
- Minimal vibration and noise emissions
- Programmable Logic Controller (PLC) provides continuous monitoring and automatic shut-down of all critical parameters while providing automatic control to avoid centrifuge plugging<sup>(1)</sup>

# Technical specifications for the 518 HV Centrifuge

## 518 HV (Fixed Drive) 518 HV VFD

## 518 HV FHD 518 HV SL VFD

## 518 HV SL FHD

All dimensions are expressed in inches (millimeters).

### Specifications

#### Performance

- Hydraulic Capacity: 248 GPM (939 LPM)
- Operating Speed: 3,200 rpm
- G-Force: 1,975 G
- Sigma Value: 24,326 ft<sup>2</sup> (2,260 m<sup>2</sup>)
- Solids Discharge: 27 GPM (6.1 m<sup>3</sup>/h)

#### Rotating Assembly

- Bowl Diameter: 13.9 in. (353.1 mm)
- Bowl Length: 57.5 in. (1,461.1 mm)
- Pond Depth: 2.3, 2.42, 2.54 in. (58.5, 61.5, 64.5 mm)
- Scroll Type: Single Lead Quasi Axial Flow
- Scroll Pitch: 4.31 in. (109.5 mm)
- Main Bearings: Grease Lubricated
- Internal Bearings: Grease Lubricated
- Feed Tube: Open Ended

#### Rotating Assembly Material

- Bowl: Stainless Steel Duplex A890
- Scroll: Stainless Steel Duplex A890 AISI 304
- Scroll Flights: Tiles; Tungsten Carbide
- Discharge Bushings: Tungsten Carbide

#### Gearbox

- Type: Planetary
- Gear Ratio: 57:1
- Torque, maximum: 2,531 ft-lb (3,432 Nm)
- Differential Range:
  - Fixed Drive: 10 to 79 rpm
  - VFD: 1 to 55 rpm
  - FHD: 1 to 80 rpm
- Weight: 159 lbs (72 Kg)

#### Nozzle Schedule

- Liquid Discharge: 8 in. Victaulic
- Solids Discharge: 21.0 x 13.8 in. (530 x 350 mm)
- Feed Tube: 2 in. NPT [Male Connection]

#### Fixed Drive Type

- Power: 400/460 V - 50/60 Hz, 3 Phase
- Main Drive Motor: 50 Hp (37 kW)
- Back Drive Motor: 15 Hp (11 kW)

#### VFD Type

- Power: 400/460 V - 50/60 Hz, 3 Phase
- Main Drive Motor: 50 Hp (37 kW)
- Back Drive Motor: 15 Hp (11 kW)

#### FHD Type

- Power: 400/460 V - 50/60 Hz, 3 Phase
- Main Drive Motor: 60 Hp (45 kW)
- Hydraulic Pump: Variable Displacement Pump

#### Certification

- 518 HV (Fixed Drive): ATEX CE Ex II 2G c IIB T3 or Class I, Division 1 hazardous areas for USA and Canada
- 518 HV VFD: ATEX CE Ex II 2G c IIB T3 or Class I, Division 1 hazardous areas for USA and Canada
- 518 HV FHD: ATEX CE Ex II 2G c b IIB T3
- 518 HV SL VFD: ATEX CE Ex II 2G c IIB T3 or Class I, Division 1 hazardous areas for USA and Canada
- 518 HV SL FHD: ATEX CE Ex II 2G c b IIB T3

Specifications continued on next page.

# Technical specifications for the 518 HV Centrifuge

518 HV (Fixed Drive)  
518 HV VFD

518 HV FHD  
518 HV SL VFD

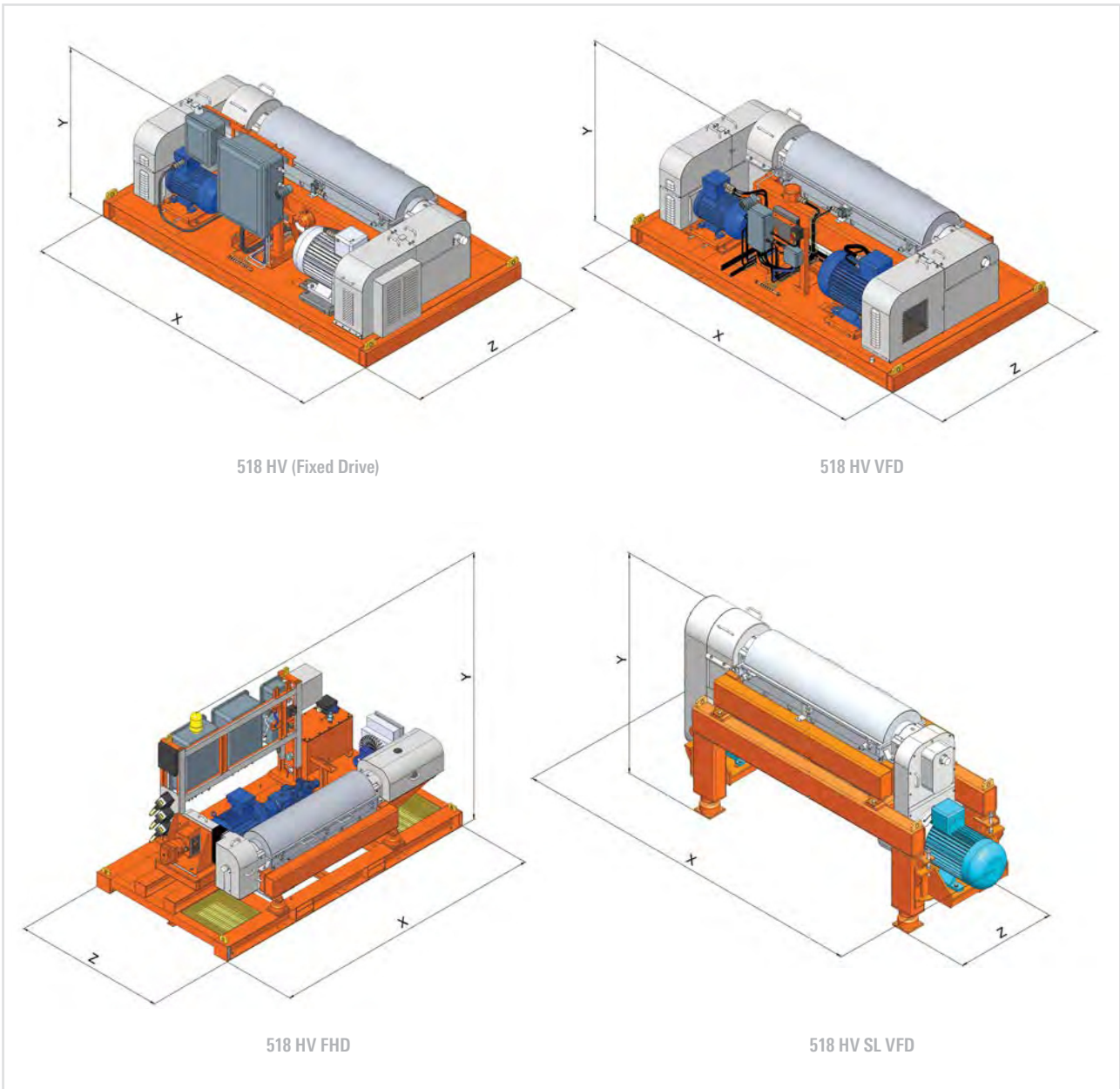
518 HV SL FHD

All dimensions are expressed in inches (millimeters).

## Specifications

### Dimensions and Weights

	X	Y	Z	Weight
■ 518 HV (Fixed Drive)	119.0 in. (3,023 mm)	53.3 in. (1,353 mm)	70.0 in. (1,778 mm)	6,173 lbs (2,800 Kg)
■ 518 HV VFD	119.0 in. (3,023 mm)	34.9 in. (887 mm)	70.0 in. (1,778 mm)	5,291 lbs (2,400 Kg)
■ 518 HV FHD	142.0 in. (3,608 mm)	70.1 in. (1,780 mm)	78.7 in. (2,000 mm)	10,141 lbs (4,600 Kg)
■ 518 HV SL VFD	132.6 in. (3,368 mm)	65.9 in. (1,674 mm)	39.4 in. (1,000 mm)	5,855 lbs (2,656 Kg)



# Technical specifications for the 518 HV Centrifuge

518 HV (Fixed Drive)  
518 HV VFD

518 HV FHD  
518 HV SL VFD

518 HV SL FHD

All dimensions are expressed in inches (millimeters).

## Specifications

### Dimensions and Weights (Continued)

	X	Y	Z	Weight
■ 518 HV SL FHD [Centrifuge Module]	130.5 in. (3,314 mm)	59.0 in. (1,499 mm)	37.0 in. (940 mm)	4,850 lbs (2,200 Kg)
■ 518 HV SL FHD [Hydraulic Module]	96.5 in. (2,450 mm)	79.7 in. (2,025 mm)	50.8 in. (1,290 mm)	5,512 lbs (2,500 Kg)
■ VFD Control Panel (ATEX)	41.3 in. (1,050 mm)	98.4 in. (2,500 mm)	82.7 in. (2,100 mm)	3,527 lbs (1,600 kg)
■ VFD Control Panel (UL)	48.0 in. (1,219 mm)	90.0 in. (2,286 mm)	102.0 in. (2,591 mm)	2,640 lbs (1,198 kg)

