

# FLUID MANAGEMENT SYSTEMS

 **Ditch Witch®**



**TRENCHLESS**

# FLUID MANAGEMENT SYSTEMS



1

Tank's sloping bottom ensures that all drilling fluid flows through the pump and is thoroughly mixed.

2

Depending on the model, mixing tanks range from 200-gallon (757-L) to 1,000-gallon (3785-L) capacities, supporting the requirements of the largest to the smallest directional drills.

3

Most models are equipped with a built-in bag ripper to accelerate mixing cycles and increase productivity.

4

Venturi wet hopper has steeper sides that allow fast, thorough fluid mixing.

5

Simplicity of design and multiple configuration options accommodate a variety of setups.



With our innovative line of **Fluid Management Systems**, the Ditch Witch® organization has set the standards for efficiency in the horizontal directional drilling industry. More important, they're designed to meet your standards of productivity through greater drilling fluid flow and faster yield times.

WE'RE IN THIS TOGETHER.



# FM25 FLUID MANAGEMENT SYSTEM

# FM13V FLUID MANAGEMENT SYSTEM



- Simple design and multiple configuration options accommodate a variety of setups and make transport easy.
- 25-hp (18.7-kW) Kubota® diesel engine provides the power to support even the largest Ditch Witch® directional drilling systems.
- Choice of one or two hoppers, either a 500-gallon (1893-L) or 1,000-gallon (3785-L) tank, and a fuel fill on both sides, allows flexible setup configurations on a trailer or truck.
- Optional accessories, including an anti-siphon tank fill and an umbrella kit, enhance the FM25's versatility.

|                                                         | U.S.      | METRIC  |
|---------------------------------------------------------|-----------|---------|
| <b>DIMENSIONS</b>                                       |           |         |
| <b>MIXING SYSTEM W/TWO 500-GALLON TANKS</b>             |           |         |
| Length                                                  | 175 in    | 4.45 m  |
| Width                                                   | 92 in     | 2.34 m  |
| Height                                                  |           |         |
| Tank assembly w/out fill pipe                           | 68 in     | 1.73 m  |
| Tank assembly w/ fill pipe                              | 75 in     | 1.91 m  |
| Weight, empty                                           | 2,350 lb  | 1070 kg |
| Weight, full of water                                   | 10,650 lb | 4830 kg |
| <b>MIXING SYSTEM W/TWO 1,000-GALLON (NOMINAL) TANKS</b> |           |         |
| Length                                                  | 205 in    | 5.21 m  |
| Width                                                   | 96 in     | 2.44 m  |
| Height                                                  |           |         |
| Tank assembly w/out fill pipe                           | 72 in     | 1.83 m  |
| Tank assembly w/ fill pipe                              | 80 in     | 2.03 m  |
| Weight, empty                                           | 3,450 lb  | 1570 kg |
| Weight, full of water                                   | 19,850 lb | 9000 kg |

|                                                   | U.S.              | METRIC      |
|---------------------------------------------------|-------------------|-------------|
| <b>FLUID/MIXING SYSTEM</b>                        |                   |             |
| Centrifugal pumps                                 | 2                 |             |
| Suction port diameter                             | 3 in              | 76 mm       |
| Discharge port diameter                           | 3 in              | 76 mm       |
| Fluid pressure, max                               | 50 psi            | 3.4 bar     |
| Pump discharge rate, max (each pump)              | 300 gpm           | 1100 l/min  |
| Flow rate to boring unit                          | 0-200 gpm         | 0-750 l/min |
| Drilling fluid tank capacity (nominal, each tank) | 500/1,000 gal     | 1893/3785 L |
| Solids addition rate w/ metering plate            | 30 lb/min         | 14 kg/min   |
| Solids addition rate w/out metering plate         | 75 lb/min         | 34 kg/min   |
| Mixing hopper capacity (each hopper)              | 1 ft <sup>3</sup> | 28 L        |
| Typical tank mixing time                          | 7-10 min          |             |

|                                                   | U.S.                 | METRIC  |
|---------------------------------------------------|----------------------|---------|
| <b>POWER</b>                                      |                      |         |
| Engine                                            | Kubota® D1105        |         |
| Fuel                                              | Diesel               |         |
| Cooling medium                                    | Water                |         |
| Injection                                         | Indirect             |         |
| Aspiration                                        | Natural              |         |
| Number of cylinders                               | 3                    |         |
| Displacement                                      | 68.5 in <sup>3</sup> | 1.12 L  |
| Bore                                              | 3.07 in              | 78 mm   |
| Stroke                                            | 3.09 in              | 78.4 mm |
| Manufacturer's gross power rating (per SAE J1995) | 25 hp                | 18 kW   |
| Rated speed                                       | 3,000 rpm            |         |
| Emissions compliance                              | EPA Tier 4           |         |

|                                          | U.S.    | METRIC |
|------------------------------------------|---------|--------|
| <b>FLUID CAPACITIES</b>                  |         |        |
| Fuel tank                                | 9.2 gal | 35 L   |
| Engine lubrication oil, including filter | 4.2 qt  | 4 L    |

Specifications are general and subject to change without notice. If exact measurements are required, equipment should be weighed and measured. Due to selected options, delivered equipment may not necessarily match that shown.

- Flowmax centrifugal pump flows 220 gpm (830 l/min) of 42-viscosity drilling fluid; supports directional drilling systems of all sizes.
- One-piece mixing jet yields 8 bags/1,000 gallons (3785 L) in fewer than 8 minutes.
- System is designed to increase productivity through greater drilling fluid flow and faster yield times.
- Self-lubricating seal minimizes pump maintenance.

|                                          | U.S.     | METRIC  |
|------------------------------------------|----------|---------|
| <b>DIMENSIONS</b>                        |          |         |
| <b>MIXING SYSTEM W/500-GALLON TANK</b>   |          |         |
| Length                                   | 150 in   | 3810 mm |
| Width                                    | 31 in    | 787 mm  |
| Height                                   |          |         |
| Tank assembly w/out fill pipe            | 68 in    | 1727 mm |
| Tank assembly w/ fill pipe               | 75 in    | 1905 mm |
| Mixing unit                              | 450 lb   | 205 kg  |
| Weight, empty                            | 550 lb   | 250 kg  |
| Weight, full of water                    | 5,160 lb | 2345 kg |
| <b>MIXING SYSTEM W/1,000-GALLON TANK</b> |          |         |
| Length                                   | 180 in   | 4572 mm |
| Width                                    | 42 in    | 1067 mm |
| Height                                   |          |         |
| Tank assembly w/out fill pipe            | 72 in    | 1829 mm |
| Tank assembly w/ fill pipe               | 80 in    | 2032 mm |
| Mixing unit                              | 450 lb   | 205 kg  |
| Weight, empty                            | 1,050 lb | 477 kg  |
| Weight, full of water                    | 9,840 lb | 4473 kg |

|                                            | U.S.              | METRIC      |
|--------------------------------------------|-------------------|-------------|
| <b>FLUID/MIXING SYSTEM</b>                 |                   |             |
| Centrifugal pumps                          |                   |             |
| Suction port diameter                      | 3 in              | 76 mm       |
| Discharge port diameter                    | 3 in              | 76 mm       |
| Fluid pressure, max                        | 50 psi            | 3.4 bar     |
| Pump discharge rate, water, max            | 270 gpm           | 1020 l/min  |
| Flow rate to boring unit, max              | 220 gpm           | 830 l/min   |
| Drilling fluid tank capacity               | 500/1,000 gal     | 1893/3785 L |
| Solids addition rate, w/ metering plate    | 30 lb/min         | 14 kg/min   |
| Solids addition rate, w/out metering plate | 75 lb/min         | 34 kg/min   |
| Mixing hopper capacity (each hopper)       | 1 ft <sup>3</sup> | 28 L        |
| Typical tank mixing time                   | 7-10 min          |             |

|                                   | U.S.                 | METRIC      |
|-----------------------------------|----------------------|-------------|
| <b>POWER</b>                      |                      |             |
| Engine                            | Honda® GX390         |             |
| Fuel                              | Gasoline             |             |
| Cooling medium                    | Air                  |             |
| Number of cylinders               | 1                    |             |
| Displacement                      | 23.7 in <sup>3</sup> | 0.39 L      |
| Bore                              | 3.46 in              | 88 mm       |
| Stroke                            | 2.52 in              | 64 mm       |
| Manufacturer's gross power rating | 11.7 hp              | 8.7 kW      |
| Rated speed                       | 3,600 rpm            |             |
| Emissions compliance              | EPA Phase 3          | EU Stage II |

|                                          | U.S.   | METRIC |
|------------------------------------------|--------|--------|
| <b>FLUID CAPACITIES</b>                  |        |        |
| Fuel tank                                | 6 gal  | 23 L   |
| Engine lubrication oil, including filter | 1.2 qt | 1.1 L  |

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## FM5 FLUID MANAGEMENT SYSTEM

## FT5 FLUID MANAGEMENT SYSTEM



- Venturi wet hopper allows excellent mixing of fluids, with steeper sides that speed up mixing cycles.
- Narrow tank can be positioned side-by-side with a drill unit on a trailer, making the equipment easy to transport to the jobsite.

- Tank's sloping bottom ensures that all drilling fluid flows through the pump and is thoroughly mixed.
- Flexible pump mounting offers a variety of setup configurations; pump delivers 160-gpm (606-l/min) flow.

- Designed to support smaller HDD systems, the compact FT5 makes short work of the mixing process.
- Venturi wet hopper allows excellent mixing of fluids, with steeper sides that speed up mixing cycles.

- Narrow tank can be positioned side-by-side with a drill unit on a trailer, making the equipment easy to transport to the jobsite.
- 200-gallon (757-L) capacity is the right size for getting the job done and transporting on small truck or trailer configurations.

|                                 | U.S.              | METRIC    |
|---------------------------------|-------------------|-----------|
| <b>DIMENSIONS</b>               |                   |           |
| Length                          | 123 in            | 3.1 m     |
| Width                           | 25.6 in           | 650 mm    |
| Height                          | 53 in             | 1.3 m     |
| Weight, empty                   | 660 lb            | 299 kg    |
| Weight, full of water           | 3,164 lb          | 1435 kg   |
| <b>FLUID/MIXING SYSTEM</b>      |                   |           |
| Centrifugal pumps               |                   |           |
| Suction port diameter           | 2 in              | 51 mm     |
| Discharge port diameter         | 2 in              | 51 mm     |
| Fluid pressure, max             | 40 psi            | 2.8 bar   |
| Pump discharge rate, water, max | 160 gpm           | 606 l/min |
| Drilling fluid tank capacity    | 300 gal           | 1136 L    |
| Solids addition rate            | 50 lb/min         | 23 kg/min |
| Mixing hopper capacity          | 1 ft <sup>3</sup> | 28 L      |

|                                          | U.S.                | METRIC      |
|------------------------------------------|---------------------|-------------|
| <b>POWER</b>                             |                     |             |
| Engine                                   | Honda® GX160        |             |
| Fuel                                     | Gasoline            |             |
| Cooling medium                           | Air                 |             |
| Number of cylinders                      | 1                   |             |
| Displacement                             | 9.9 in <sup>3</sup> | .16 L       |
| Bore                                     | 2.7 in              | 69 mm       |
| Stroke                                   | 1.8 in              | 46 mm       |
| Manufacturer's net power rating          | 5.5 hp              | 4.1 kW      |
| Rated speed                              | 3,600 rpm           |             |
| Emissions compliance                     | EPA Phase 3         | EU Stage II |
| <b>FLUID CAPACITIES</b>                  |                     |             |
| Fuel tank                                | 0.95 gal            | 3.6 L       |
| Engine lubrication oil, including filter | 0.63 qt             | 0.6 L       |

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|                                     | U.S.     | METRIC   |
|-------------------------------------|----------|----------|
| <b>DIMENSIONS</b>                   |          |          |
| Length                              | 73 in    | 1.85 m   |
| Length, w/hose and valve            | 84 in    | 2.13 m   |
| Width                               | 32 in    | 813 mm   |
| Height                              | 53.5 in  | 1.36 m   |
| Weight, empty                       | 402 lb   | 182 kg   |
| Weight, full of water               | 2,071 lb | 939 kg   |
| <b>FLUID/MIXING SYSTEM</b>          |          |          |
| Drilling fluid/mixing tank capacity | 200 gal  | 757 L    |
| Flow rate to drilling unit, max     | 18 gpm   | 68 l/min |

|                         | U.S.                | METRIC |
|-------------------------|---------------------|--------|
| <b>POWER</b>            |                     |        |
| Engine                  | Honda® GX160        |        |
| Fuel                    | Gasoline            |        |
| Cooling medium          | Air                 |        |
| Number of cylinders     | 1                   |        |
| Displacement            | 9.9 in <sup>3</sup> | .16 L  |
| Bore                    | 2.7 in              | 69 mm  |
| Stroke                  | 1.8 in              | 46 mm  |
| Gross power @ 3,600 rpm | 5.4 hp              | 4 kW   |
| <b>FLUID CAPACITIES</b> |                     |        |
| Fuel tank               | 1 gal               | 3.6 L  |
| Engine oil              | 0.6 qt              | 0.6 L  |

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## THE DITCH WITCH® FLUID MANAGEMENT SYSTEM INCLUDES:



### PARTS AND SERVICE

Your Ditch Witch dealer is your source for factory-trained service and the genuine Ditch Witch parts you need for your vacuum excavation system, including lawn sweepers, suction tools, extensions, filters, spray nozzles, and other accessories that enable you to complete a wide variety of tasks.



### DEALER SERVICE AND SUPPORT

Whether it's new or used equipment, parts, service, financing, or all of the above, your Ditch Witch dealer is prepared to offer you the best of everything. Ditch Witch dealers are chosen for their commitment to the underground construction profession, and they are thoroughly trained to represent the highest standards in the industry.

