

## FTS SKID Series – AC Motor Fluid Transfer System – “Hat” Channel Skids

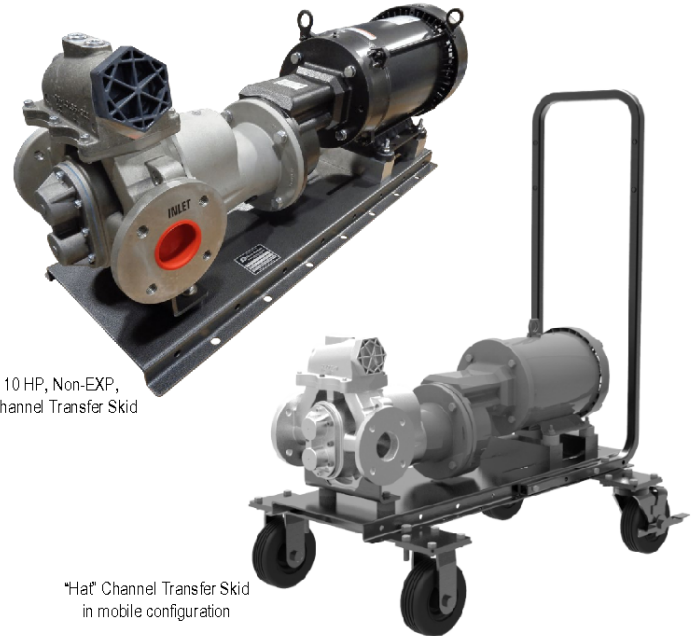
### APPLICATIONS

Our “hat” channel skids provide the amazing performance of the Dixon Pumps Tri-Lobe pump design on a sturdy, light-weight platform allowing easy access to the pump inlet and outlet. This skid can be used in a stationary or mobile configuration, with metering and VFD options, to transfer fluids at flow rates between 10 and 175 GPM up to 150 psi in applications such as fleet, aviation, marina, construction, and agriculture refueling as well as bulk loading/unloading for rail, truck, and marine vessels. Typical fluids include Fuels, Oils, Lubes, Anti-freeze, Petroleum Contact Water (PCW), Transmission Fluid, and some petrochemicals.

### PUMP

Our systems feature patented Tri-Lobe positive displacement impeller technology that provides dry-run, dry suction lift, and flow performance like no other positive displacement pump in the industry.

- **DRY-RUN** – Our pump can be operated without fluid in the pump chamber. Pulling fluid through an empty pipe or hose is no problem. There’s no need to prime the pump...just turn it on!
- **SUCTION LIFT PERFORMANCE** - When it’s time to pump fluid from down deep, the Dixon Pumps Tri-Lobe impellers can generate a vacuum that will lift fluids over 28 ft. at sea level!



2.0", 10 HP, Non-EXP,  
“Hat” Channel Transfer Skid

“Hat” Channel Transfer Skid  
in mobile configuration

### AVAILABLE POWER OPTIONS

Our FTS Skids come equipped with multiple AC power options (single and three phase) up to 10 HP, either for hazardous (explosive) or non-hazardous environments.

|  | 1500 Series  | 2000 Series  |
|--|--|--------------|
| <b>PUMP</b>                            | Patented Dixon Pumps Positive Displacement Tri-Lobe Impeller Technology  |              |
| Inlet Size and Type                    | 1.5 in. FNPT   | 2.0 in. FNPT |
| Outlet Size and Type                   | 1.5 in. FNPT   | 2.0 in. FNPT |
| Pump Shaft Material                    | Carbon Steel   |              |
| Impeller/Vane Material                 | Proprietary Engineered Resin   |              |
| Pump Housing Material                  | Aluminum   |              |
| Wetted O-Ring and Shaft Lip Seal       | Viton®   |              |
| Bypass Options*                        | 20 psi, 50 psi, 75 psi, 100 psi<br>External Bypass Required over 100 psi<br>Dual By-pass available for bi-directional flow |              |
| Maximum Particle Size Clean Fluids**   | 300 micron / 50 mesh / 297 mm / .0117 in   |              |
| Maximum Particle Size Debris Removal** | 74 micron / 200 mesh / .074 mm / .0029 in  |              |
| Maximum Differential Pressure          | 125 psi / 8.6 bar  |              |
| Maximum Viscosity                      | 3,000 cSt  |              |
| Maximum Time in Bypass                 | 1 min for volatile fluids. Consult Factory for extended use applications.  |              |

\* Bypass limits determined by power source overload limits

\*\* Particle size tolerance depends on duration and volume of exposure. Larger particles can be tolerated during intermittent and incidental exposure. Long-term exposure when removing dirty oil and debris, or during tank cleaning can damage the pump, requiring filtration or screening to smaller particle size.

### POWER SOURCE SPECIFICATION

| Type     | EP  | HP   | Hz | PH | Voltage     | Wired as | Duty | FLA            | RPM  | Switch   | End  | EP Class |
|----------|-----|------|----|----|-------------|----------|------|----------------|------|----------|------|----------|
| AC Motor | NO  | 1.5  | 60 | 1  | 115/230     | 115      | C    | 12.0/6.0       | 1725 | On JB*   | TEFC | n/a      |
| AC Motor | NO  | 2.0  | 60 | 1  | 115/230     | n/a      | C    | 18.9/9.4       | 1725 | None     | TEFC | n/a      |
| AC Motor | NO  | 3.0  | 60 | 1  | 115/208-230 | n/a      | C    | 28.0/15.0-14.0 | 1755 | None     | TEFC | n/a      |
| AC Motor | NO  | 5.0  | 60 | 1  | 208-230     | n/a      | C    | 21.5/19.5      | 1755 | None     | TEFC | n/a      |
| AC Motor | NO  | 7.5  | 60 | 1  | 208-230     | n/a      | C    | 35.0/30.0      | 1740 | None     | TEFC | n/a      |
| AC Motor | NO  | 2.0  | 60 | 3  | 230/460     | n/a      | C    | 6.0/3.0        | 1725 | None     | TEFC | n/a      |
| AC Motor | NO  | 3.0  | 60 | 3  | 230/460     | n/a      | C    | 7.8/3.9        | 1770 | None     | TEFC | n/a      |
| AC Motor | NO  | 5.0  | 60 | 3  | 230/460     | n/a      | C    | 12.6/6.3       | 1760 | None     | TEFC | n/a      |
| AC Motor | NO  | 7.5  | 60 | 3  | 208-230/460 | n/a      | C    | 20.8-18.8/9.4  | 1765 | None     | TEFC | n/a      |
| AC Motor | NO  | 10.0 | 60 | 3  | 208-230/460 | n/a      | C    | 14.0-26.4/13.2 | 1760 | None     | TEFC | n/a      |
| AC Motor | YES | 1.5  | 60 | 1  | 115/230     | 115      | C    | 12.4/6.2       | 1725 | On Motor | EPFC | ②        |
| AC Motor | YES | 2.0  | 60 | 1  | 115/230     | n/a      | C    | 22.0/11.0      | 1725 | None     | EPFC | ①        |
| AC Motor | YES | 3.0  | 60 | 1  | 115/230     | n/a      | C    | 30.0/15.0      | 1725 | None     | EPFC | ①        |
| AC Motor | YES | 5.0  | 60 | 1  | 230.0       | n/a      | C    | 21.0           | 1725 | None     | EPFC | ①        |
| AC Motor | YES | 2.0  | 60 | 3  | 230/460     | n/a      | C    | 6.0/3.0        | 1755 | None     | EPFC | ②        |
| AC Motor | YES | 3.0  | 60 | 3  | 230/460     | n/a      | C    | 8.0/4.0        | 1765 | None     | EPFC | ②        |
| AC Motor | YES | 5.0  | 60 | 3  | 230/460     | n/a      | C    | 12.4/6.2       | 1755 | None     | EPFC | ②        |
| AC Motor | YES | 7.5  | 60 | 3  | 230/460     | n/a      | C    | 20.0/10.0      | 1770 | None     | EPFC | ②        |
| AC Motor | YES | 10.0 | 60 | 3  | 230/460     | n/a      | C    | 25.0/12.0      | 1765 | None     | EPFC | ②        |

① C11 Grp D Div1

② C11 Grp D Div1 + C12 Grp F&G T3B

\*JB = Junction Box

### PERFORMANCE – DRY VACUUM, NPSHr

| Pump RPM                               | 1500 Series (1.5") |      |      |      |      |      | 2000 Series (2.0") |      |      |      |      |      |
|--|--------------------|------|------|------|------|------|--------------------|------|------|------|------|------|
|  | 200                | 400  | 600  | 800  | 1000 | 1200 | 200                | 400  | 600  | 800  | 1000 | 1200 |
| Vacuum (Inches of Hg)                  | 3.6                | 9.8  | 14.5 | 17.5 | 19.2 | 19.8 | 5.1                | 12.7 | 17.8 | 20.2 | 22.2 | 22.8 |
| Dry Lift of Water in Feet (SG=1)       | 4.1                | 11.2 | 16.4 | 19.9 | 21.7 | 22.4 | 5.8                | 14.4 | 20.2 | 22.9 | 25.1 | 25.8 |
| Dry Lift of Gasoline in Feet (SG=.73)* | 5.6                | 15.3 | 18.0 | 18.0 | 18.0 | 18.0 | 8.0                | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 |
| Dry Lift of Diesel in Feet (SG=.88)    | 4.7                | 12.7 | 18.7 | 22.6 | 24.7 | 25.5 | 6.6                | 16.4 | 22.9 | 26.0 | 28.6 | 29.3 |

\* Dry lift of gasoline varies depending on vapor pressure. This specification is for summer fuel RVP = 9, sea level.

### NET POSITIVE SUCTION HEAD REQUIRED (NPSHr)

| Inlet Unit       | RPM: |      |      |      |      |      |      |      |
|------------------|------|------|------|------|------|------|------|------|
|                  | 450  | 575  | 700  | 800  | 900  | 1000 | 1100 | 1200 |
| 1.5" Water (ft)  | 18.0 | 18.1 | 18.4 | 19.0 | 19.4 | 19.6 | 19.8 | 20.0 |
| 1.5" Diesel (ft) | 20.0 | 20.1 | 20.4 | 21.1 | 21.6 | 21.8 | 22.0 | 22.2 |
| 2.0" Water (ft)  | 18.0 | 18.1 | 18.4 | 19.0 | 19.5 | 20.0 | 20.4 | 20.8 |
| 2.0" Diesel (ft) | 20.0 | 20.1 | 20.4 | 21.1 | 21.7 | 22.2 | 22.7 | 23.1 |

## PERFORMANCE – FLOW AND PRESSURE

### TYPICAL PERFORMANCE DATA (Flow Rate For 3 cSt Fluid At 80% of Bypass Pressure)

|     |    | 1.5" Pump                          |      |      |     |       |         |         |         |         |         |        | 2.0" Pump |                                    |     |       |       |       |       |       |       |        |        |          |         |         |         |      |      |
|-----|----|------------------------------------|------|------|-----|-------|---------|---------|---------|---------|---------|--------|-----------|------------------------------------|-----|-------|-------|-------|-------|-------|-------|--------|--------|----------|---------|---------|---------|------|------|
|     |    | FLOW (GPM) / BYPASS PRESSURE (PSI) |      |      |     |       |         |         |         |         |         | "B"    | "F"       | FLOW (GPM) / BYPASS PRESSURE (PSI) |     |       |       |       |       |       |       |        |        | "B"      | "F"     |         |         |      |      |
| EP  | PH | Hz                                 | HP   | "H"  | GR: | 1.3:1 | 1.6:1   | 2.0:1   | 2.5:1   | 3.0:1   | 4.1:1   | 5.0:1  | 7.2:1     |                                    |     | 1.3:1 | 1.6:1 | 2.0:1 | 2.5:1 | 3.0:1 | 4.1:1 | 5.0:1  | 7.2:1  |          |         |         |         |      |      |
| NO  | 1  | 60                                 | 1.5  | 0.0  |     |       |         |         |         | 50/20   | 40/50   | 30/50  | 20/75     | 13/100*                            | 7.1 | 27.6  |       |       |       |       |       |        | 70/20  | 55/20    | 45/20   | 30/50   | 7.1     | 29.0 |      |
| NO  | 1  | 60                                 | 2.0  | 0.0  |     |       |         |         |         |         |         |        |           |                                    | 7.1 | 27.6  |       |       |       |       |       |        | 75/20  | 50/50    | 40/50   | 30/75   | 7.1     | 29.0 |      |
| NO  | 1  | 60                                 | 3.0  | 6.9  |     |       | 85/20   | 65/50   | 50/50   | 40/75   | 30/100* |        |           |                                    | 7.1 | 28.2  |       |       |       |       |       | 115/20 | 90/20  | 70/50    | 50/50   | 40/75   | 25/100* | 7.1  | 29.5 |
| NO  | 1  | 60                                 | 5.0  | 7.4  |     |       |         | 65/75   | 50/100* | 40/100* |         |        |           |                                    | 7.1 | 31.0  |       |       |       |       |       | 140/20 | 115/20 | 85/50    | 70/75   | 50/100* |         | 7.1  | 32.4 |
| NO  | 1  | 60                                 | 7.5  | 8.4  |     |       | 100/75  | 80/100  | 65/100  |         |         |        |           |                                    | 7.8 | 33.5  |       |       |       |       |       | 175/20 | 140/50 | 110/75   | 70/100* |         |         | 7.1  | 35.4 |
| NO  | 3  | 60                                 | 2.0  | 5.6  |     |       |         | 65/20   | 55/20   | 40/50   | 30/75   | 20/100 | 13/100*   |                                    | 7.1 | 26.6  |       |       |       |       |       |        | 70/20  | 50/50    | 40/50   | 30/75   | 7.1     | 28.0 |      |
| NO  | 3  | 60                                 | 3.0  | 6.4  |     |       |         | 85/20   |         | 50/50   | 40/75   | 30/100 | 20/100*   |                                    | 7.1 | 27.7  |       |       |       |       |       | 110/20 | 90/20  | 70/50    | 50/50   | 40/75   | 30/100* | 7.1  | 29.1 |
| NO  | 3  | 60                                 | 5.0  | 6.4  |     |       |         | 65/75   | 50/100* | 40/100* |         |        |           |                                    | 7.1 | 28.6  |       |       |       |       |       | 140/20 | 110/20 | 85/50    | 70/75   | 50/100* |         | 7.1  | 30.0 |
| NO  | 3  | 60                                 | 7.5  | 7.8  |     |       |         | 80/100  | 60/100* |         |         |        |           |                                    | 7.8 | 34.9  |       |       |       |       |       | 175/20 | 140/50 | 110/75   | 85/100  | 65/100* |         | 7.8  | 36.8 |
| NO  | 3  | 60                                 | 10.0 | 7.8  |     |       | 100/100 | 85/100* |         |         |         |        |           |                                    | 7.8 | 35.5  |       |       |       |       |       | 175/50 | 138/75 | 100/100  | 85/100* |         |         | 7.8  | 35.5 |
| YES | 1  | 60                                 | 1.5  | 7.7  |     |       |         | 65/20   | 50/20   | 40/20   | 30/50   | 20/75  | 13/100*   |                                    | 7.1 | 29.8  |       |       |       |       |       |        | 75/20  | 50/20    | 45/20   | 30/50   | 7.1     | 31.1 |      |
| YES | 1  | 60                                 | 2.0  | 8.5  |     |       |         |         |         | 40/50   | 30/75   | 20/100 |           |                                    | 7.1 | 31.0  |       |       |       |       |       | 90/20  |        | 50/50    | 40/50   | 30/75   | 7.1     | 32.4 |      |
| YES | 1  | 60                                 | 3.0  | 8.4  |     |       | 85/20   | 70/20   | 50/50   | 40/75   | 30/100* |        |           |                                    | 7.8 | 32.6  |       |       |       |       |       | 110/20 |        | 70/50    | 50/75   | 40/75   | 25/100* | 7.8  | 34.0 |
| YES | 1  | 60                                 | 5.0  | 8.4  |     |       |         | 60/75   | 50/100* | 40/100* |         |        |           |                                    | 7.8 | 34.2  |       |       |       |       |       | 140/20 | 110/50 | 85/75    | 70/75   | 50/100* |         | 7.8  | 35.6 |
| YES | 3  | 60                                 | 2.0  | 8.3  |     |       |         | 70/20   | 50/50   | 40/50   | 30/75   | 20/100 | 13/100*   |                                    | 7.1 | 28.0  |       |       |       |       |       |        | 90/20  | 70/20    | 50/50   | 40/50   | 30/75   | 7.1  | 29.4 |
| YES | 3  | 60                                 | 3.0  | 10.0 |     |       |         | 85/20   | 70/50   |         | 40/75   | 30/100 | 20/100*   |                                    | 7.1 | 29.8  |       |       |       |       |       | 110/20 |        | 70/50    | 50/75   | 40/75   | 25/100* | 7.1  | 31.2 |
| YES | 3  | 60                                 | 5.0  | 10.0 |     |       |         | 85/50   | 65/75   | 50/100* |         |        |           |                                    | 7.1 | 32.3  |       |       |       |       |       | 140/20 | 110/50 | 85/75    | 70/75   | 50/100* |         | 7.1  | 33.7 |
| YES | 3  | 60                                 | 7.5  | 11.2 |     |       |         | 85/100  | 60/100* |         |         |        |           |                                    | 7.8 | 32.9  |       |       |       |       |       | 175/20 | 140/50 |          | 85/100  | 65/100* |         | 7.8  | 34.8 |
| YES | 3  | 60                                 | 10.0 | 11.2 |     |       |         |         |         |         |         |        |           |                                    | 7.8 | 37.8  |       |       |       |       |       | 175/50 | 140/75 | 110/100* |         |         | 7.8     | 37.8 |      |

EP = Explosion-Proof, PH = Phase, Hz = Herz, HP = Horse Power

\*Pump can generate more pressure, but external bypass is required

## ACCESSORIES - Meters

For custody transfer applications, precision meters from Liquid Controls and Total Control Systems are available, mounted to the "hat" channel on a sturdy framework for easy access and operation.



Liquid Controls (Mechanical)



Total Controls (Mechanical)

## WEIGHT

### TOTAL SYSTEM WEIGHT (Lbs.)

| Type                       | 1.5" Pump |        |        |        |        |       | 2.0" Pump |        |        |        |        |       |
|----------------------------|-----------|--------|--------|--------|--------|-------|-----------|--------|--------|--------|--------|-------|
|                            | 1.5 HP    | 2.0 HP | 3.0 HP | 5.0 HP | 7.5 HP | 10 HP | 1.5 HP    | 2.0 HP | 3.0 HP | 5.0 HP | 7.5 HP | 10 HP |
| w/ EP SINGLE Phase Motor   | 115       | 134    | 186    | 216    |        |       | 126       | 145    | 190    | 220    |        |       |
| w/ EP THREE Phase Motor    | 109       | 128    | 161    | 196    | 206    | 306   | 120       | 139    | 165    | 200    | 210    | 310   |
| w/ TEFC SINGLE Phase Motor | 111       | 109    | 138    | 169    | 199    |       | 122       | 120    | 142    | 173    | 203    |       |
| w/ TEFC THREE Phase Motor  | 109       | 105    | 141    | 153    | 181    | 216   | 120       | 116    | 145    | 157    | 185    | 220   |

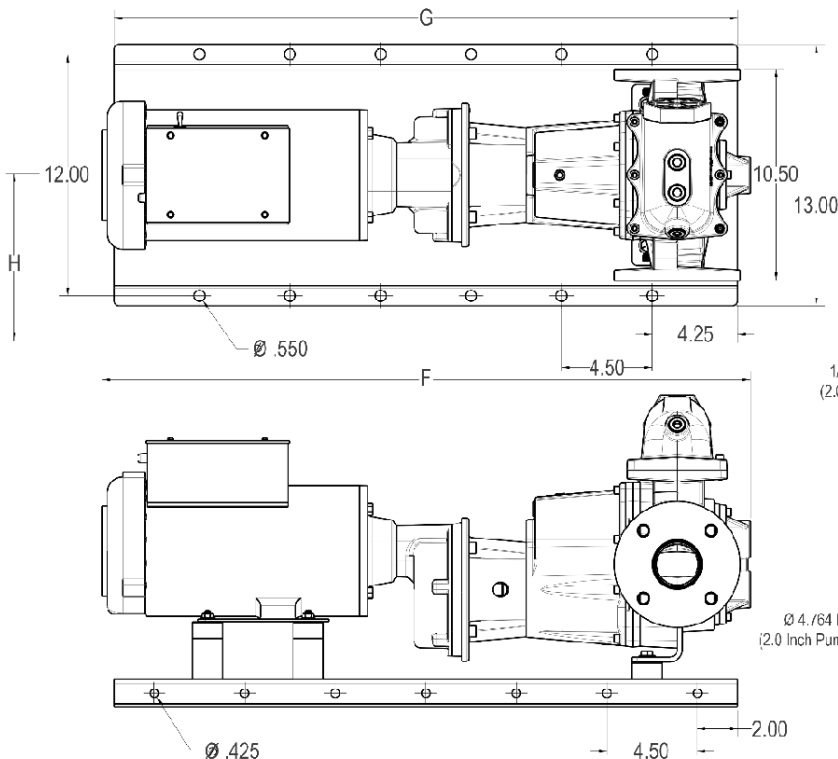
## ACCESSORIES - Hardware

Hoses, nozzles and suction drop pipes are available for purchase separately (available in F x F or F x M configuration)

- Hose kits – 10ft, 20ft, and 30 ft, sections with Camlock fittings for easy extension add-ons
- 1.5" Mechanical Nozzle with Camlock fitting
- 1.5", 3 ft. Drop Pipe with Camlock fitting

## DIMENSIONS (in Inches)

1.5 Hp Non-Explosion-Proof (TEFC) Model Shown for Reference



## ACCESSORIES - VFD

Variable Frequency Drives are available for use with 3-phase models to control speed and maximize flow.

- A = 3.0"
- B = See "B" in "Performance Table" above
- C = 1.5" for 1.5" Pump, 2.0" for 2.0" Pump
- D = 0.0" for 1.5" Pumps, and 0.6" for 2.0" Pumps
- E = 15.4" for Models with "B" = 7.1"
- E = 16.2" for Models with "B" = 7.8"
- F = See "F" in "Performance Table" above
- G = 31.0" for 1.5 and 2.0 Hp Pumps
- G = 35.5" for 3.0, 5.0, 7.5, and 10.0 HP Pumps
- H = Junction box may extend beyond the skid. See "H" in "Performance Table" above

