



# **Experts in Filling Systems** for Automotives

Semi-Automated Systems for Dispensing fluids in small and precise quantities on the low to high volume assembly line in vehicle manufacturing.





# Fluid Filling Systems trusted by India's leading Electric Vehicle

manufacturers





#### Proven filling systems for













2 Wheelers

3 Wheelers

4 Wheelers/ SUVs Agricultural Vehicles Off-Highway Vehicles Electric Vehicles

#### Applications we serve

- AC Gas ChargingBrake Oil
- Engine and GearboxHydraulic Transmission
- Shock AbsorberWind Shield Washer
- Diesel UV DyeHydro-mount
- Radiator CoolantPower Steering

#### The Big Difference

Shortest lead time -On schedule to hit your production start date **Total Control -** All Inhouse capabilities R&D, Manufacturing Services etc. Proven Track Record -500+ Machines at World's Top OEMs Robust Machines -Operational since 15+ Years

**Lowest MTTF/MTBR -**Fastest fulfilment of service requests

Highest Reliability -Uptime guarantee of 99% **Lowest TCO -** Most economical Spares and Service

**Seamless Integrations -** MES, QR/RFID, IoT Systems and more

# 25 Years of Expertise in Fluid Filling Technology



1997

**Refurbishing** of critical filling machines for top OEM

2000

Entrusted to develop machine considering excellent work

2002

**First** Fluid Filling Machines for 4 Wheelers in India by Twin

2004

Serving **new applications**; Leading OEMs trust Twin's technology

2012

System for **multiple fluids** commissioned successfully

2018

**Exports** of Fluid Filling Systems begin

2023

India's leading **EV manufacturers** choose Twin's fluid filling systems



**Key Clients** 

DAIMLER











ROYAL ENFIELD



**TATA MOTORS** 



























# Complete range of fluid filling machines



#### **Under vacuum filling**

Brake oil filling | Steering oil filling | Coolant filling | AC Gas filling

#### **Metered quantity**

Engine oil filling | Diesel filling | Gearbox oil filling | Axle oil filling | Ad-Blue filling Windshield Washer filling | Transmission oil filling Hydraulic oil filling | Shock Absorber oil filling | Hydro mount | Coolant

#### **Special Machines**

Filling & filtration



### Capabilities

#### All In-house

Dedicated teams for R&D, PLC to Manufacturing and services

### Years of Expertise

Experienced team adept at understanding your expectations, and delivering to global standards

### Continuous Innovation

MES, IoT and Industry 4.0 integrations, and process optimisation to meet your goals

### Total solution with flexibility

Ergonomic solutions, highest safety standards and automation to adapt to your specific needs

### Award winning Fluid filling

systems winning accolades from the world's leading brands such as Ford, Toyota and more...

# Get India's Top Experts on your team

Recognised as pioneer, innovator and India's foremost expert on filling and dispensing technology





Force behind Twin's Next Generation machines for smart factories; Taking Twin's technology global.





With Twin we have set a standard, everyone else is judged against.

- Marc Dugas, Manufacturing Engineering, PTO – SaEP Engine Assembly, Ford Motors With Twin we have set a standard, everyone else is judged against.

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# Under vacuum filling

#### Sequence of operation

- 1) Positive air leak test
- 2) Evacuation
- 3) Vacuum hold
- 4) Re vacuum
- 5) Filling
- 6) Filling hold
- 7) Levelling-1
- 8) Levelling-2Levelling-3



## Brake and Clutch Oil Filling

- > 2/3/4 Wheelers
- > Degassing of Oil
- > Synchronous Trolley/Moving Trolley
- > Multiple gun system available
- > ABS Testing along with Brake Oil Filling



Flow Rate Starting from 40 s



Options
Dot 3, Dot 4,
Servo Transdex II



Oils Handled
Calibration Jig,
Auto transfer of
Oil, moving console



Suitable to all makes eg. Continental, Bosch, Mobis etc.

# Radiator Coolant Filling Machine

The coolant filling machine comes in two standard options

- > Pre-mix Coolant dispensing systems
- Systems with facility to mix Coolant and distilled water in machine



**Flow Rate** 60 s



**Options** 

Equipment with Variable filling Ratio for coolant & distilled water available

# Power Steering Oil Filling

- 4 Wheelers, HCVs Degassing Of Oil Synchronous Trolley/
- Moving Trolley
- > Auto Clamping Adapter/Gun



Flow Rate 80 s



Options
Calibration Jar,
Auto transfer of oil
to machine tank

### **AC Charging Stations**

- > 4 Wheelers, HCVs
- > Manual/Auto dispensing gun adapter
- Accumulator for maintaining consistent pressure throughout the line



Flow Rate 925 gm/m



**Options** 

Metered quantity filling (mass flow meter)

#### **SUPPORT SERVICES**

- > Application engineering
- > Calibration & commissioning support
- > AMCs, Repairs, spares etc.
- Operation & MaintenanceTrainings
- > Support for system or process upgrade
- Vacuum pump to seal entire fluid circuit
- Barcode/RFID based tracking (optional)
- SCADA/MES integration

### Metered Quantity Filling

- Customised Fluid Circuit to achieve accurate and consistent filling
- Range of Automatic Filling Guns to suit the unique port size of different vehicles
- Advanced Flow meters and sensors to precisely measure the quantity of fluid to be filled
- > Manual/Auto Dispensing Gun
- > Advanced Controller with data logging
- > Adapter for air tight sealing



- > 2/3/4 Wheelers, LCVs, HCVs, Tractors
- Integrated with overhead oil storage or oil barrel
- Transmission filtrations system (Nash 5 level)



Flow Rate Adjustable



**Options**Calibration Jig,
Auto transfer of oil



**Oils Handled** 5W 30, 10W 30, SAE 90, SAE 14



# Urea Filling/Ad-Blue Dispensing Machine

- > Cars, HCVs
- > Automatic filling gun with zero-drip facility
- > Designed to meet Euro IV norms



Flow Rate 15 LPM



Options

Calibration Jar, Auto transfer of Urea to machine tank

## Diesel Filling Stations

- > HCVs
- > Flame proof electrical systems
- > Fluid Circuit with Vacuum Pump
- Air tight sealing with Manual/Auto clamp as per necks of different variants of vehicles



Flow Rate 35 LPM



**Options** 

Calibration Jar, Auto transfer of Diesel

# Windshield Washer Filling machine

- > Cars, HCVs
- > Base stations with overhead consoles
- Multiple selection options and fill size verification



Flow Rate 7 LPM

# Specialized Filling Adapters

# 7

#### to meet your productivity goals

Twin offers specialised filling adapters designed to suit the specific needs of your filling processes and type of fluids. The light-weight filling adapters use pneumatic clamping and valves to offer high flow rate and ensure ease in operation. With fast and easy handling, the Operator stays productive even if the process uses multiple adapters or fluids.









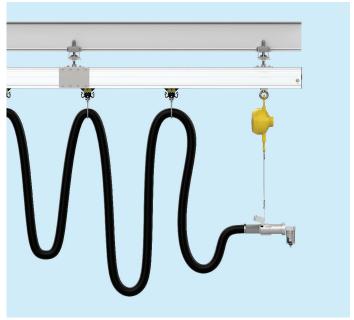
- > Precise measurement at filling point
- > High filling speed, lower evacuation time
- > Light-weight Well-balanced design

- > Coated surface for protection
- > Low maintenance, low-cost

# **Special** Machines









In addition to the compact filling stations, Twin Engineers also offers solutions that combine all filling fluids or gases in a unified system, reducing the number of standalone units and bring in huge savings in space. The filling stations can fulfill mixing, metered filling and vacuum filling processes as a single unit. The filling adapters are designed and color coded to easily match the right fluid filling process.

- > Fully customized as per filling processes
- > Compact and modular platform
- > Multiple fluids and adapters in a single system

# It's Not Just Filling We're Experts In...

- > Fluid circuit designs
- > Control panel design and build
- > Evacuation and filling process engineering
- Process and handling Automation
- > Safer and ergonomic best practices
- > Know-how of fluids, and filling standards

### **Truly Global**

Customer base and service support spanning across the globe.



#### INDIA (HQ)

#### Twin Engineers Pvt. Ltd.

J-524, MIDC, Bhosari, Pune 411 026. Maharashtra, India. Tel: +91 20 2713 0626, 2713 0118 Enquiry: +91 99755 49701 / 702 / 703 Email: mktg@twinengineers.com

#### THAILAND

#### Duraflex D Co Ltd.

Apai Ananthset Mob: 66616626561 Email: apai@duraflex-d.com

### EGYPT, SAUDI ARABIA & ALL MEMBER STATES OF UAE

#### Zenithar Foreign trade & consulting

Ozan H. Güreç:+90 505 648 94 25 Email: ozan.gurec@zenithar.net

Hakan Aktay: +90 536 226 00 45 Email: hakan.aktay@zenithar.net

#### TURKEY

#### ARES Trafo

Cemil

Mob: +90532 788 6166

Email: cemilberker@aresmetal.com