ENGINEERED PRODUCTS & SOLUTIONS

FLUID SYSTEMS
MECHANICAL SYSTEMS
CONTROL SYSTEMS
COMPONENT TEST
CUSTOM ENGINEERED SYSTEMS
ACS designs and builds custom products and engineered solutions, ranging from a single, stand-alone system to multiple integrated systems. We manage and control the engineering design, manufacturing, and factory acceptance testing in addition to onsite installation, commissioning, and integration. Our 40,000 SF facility, with full machining capabilities, complete metal fabrication, space for facility mockups, and UL listed electrical and control panel build shop, allows us to meet the schedule, budget and operational requirements of the most demanding applications.

FLUID SYSTEMS

Fluid systems are capable of conditioning, measurement, blending and supply of fluids. The fluid systems are tailored to application requirements, including end of line production or research and development testing. The equipment can be stand-alone or integrated into new or existing facility systems.

GASEOUS FUELS

Gaseous fuel systems are used for measurement, blending, and safety. The gas systems are designed to handle a variety of individual gases, including natural gas and propane in various concentrations. Gas safety systems ensure facilities meet relevant codes and provide the appropriate level of safety.

LIQUID FUELS

Liquid fuel systems, used for conditioning and measurement, are capable of controlling temperature and pressure, and measuring volumetric or mass flow rate. The fuel systems ensure consistent, predictable, and acceptable fuel supply to the unit under test.

OIL CONDITIONING

Oil systems are used for conditioning, filtration, and measurement. Capable of controlling temperature and pressure, measuring flow rate, and providing needed filtration, the oil system ensures consistent, predictable, clean, and acceptable oil supply to the unit under test.

WATER CONDITIONING & INTERCOOLER

Water systems are used for temperature control, flow control, and measurement. The water systems are for engine coolant, intercooler water, process cooling water, or any water needed for cooling or simulation. These systems ensure consistent and acceptable amounts of cooling medium to the unit under test.
Combustion air systems provide filtered and conditioned air. Temperature, humidity, pressure, and flow can be measured or controlled. Exhaust systems safely and efficiently remove exhaust gas from the test cell. They also protect the health and safety of workers in the area, and provide a means to test for emissions, product development, and end of line product quality control.

**TEST ARTICLE TRANSPORTATION - CARTS, PALLETS, DOCKING**

A variety of equipment is designed and built to transport units under test from the assembly line or rigging area to the test cell. Carts or pallets are moved by conveyor systems, built-in motors, or manually with fork trucks or tuggers.

Once in the testing area, automated or manual docking receiver systems are integrated with the dynamometer and cart/pallet for secured testing. The transportation systems ensure safe, repeatable, and quick transportation and connection sequences.
Mechanical systems are capable of providing the structure, connection, and integrated mechanical motion needed to transport, connect, and operate units under test. The systems are tailored to application requirements, including end of line production or research and development testing. The equipment can be stand-alone or integrated into new or existing facility systems.

TEST BED EQUIPMENT - DRIVELINES, DYNAMOMETER RISERS, GUARDING

Drivelines, dynamometer risers, and guarding are designed and built to connect, locate, and protect the rotating components of the unit under test to the power absorbing device in the test cell.

Drivelines transfer mechanical rotation using assemblies of driveshafts, flexible couplings, adapters, bearing blocks, and torque and speed measurement. Dynamometer risers provide structure to locate the dynamometer at the proper location. Guarding is provided around rotating components to increase operator safety and contain parts during a driveline failure. The drivelines, dynamometer risers, and guarding ensure safe and repeatable transfer of power during testing.

TEST ARTICLE CONNECTIONS- HARNESSING, RIGGING, DRESSING

Selected hoses and fittings, custom pipe fabrications, and match plates connect the unit under test to the permanent equipment within a test cell. These products decrease installation challenges and reduce setup time inside the test cell.

Instrumentation connections integrated into the test article transportation or routed to boom arms suspended above the unit under test further reduce in-cell setup time. These connections ensure safe, reliable, and quick transfer of fluids and data from the unit under test to the facility systems.
COMPONENT TEST

Test solutions for turbochargers, belts, pumps, actuators, bearings and other component products are engineered to meet the test requirements. Test stands integrate all the needed fluid, mechanical, electrical, control, and data acquisition systems into single or multiple assemblies.

Whether stand alone or integrated into new or existing facility layouts and systems, the solution ensures the needs of the unit under test are met and design tradeoffs are evaluated and considered.

CONTROL SYSTEMS

Built in our UL listed panel build shop, solutions vary from specified panel manufacture to custom engineered control systems. These systems ensure the equipment functions as intended to provide high accuracy and efficiency.

ACS provides control sequence development and programming services for applications ranging from machine control and data acquisition to safety oversight and facility systems integration. Based on customer preference a variety of control platforms can be delivered.

CUSTOM ENGINEERED SYSTEMS

Complete, custom designed and built equipment solutions are engineered to meet customer requirements. Engineered solutions include combinations of fluid, mechanical, electrical, and control systems for single cylinder testing, altitude simulation, emissions measurement, product conveying, hydraulic actuation, manufacturing verification, and other demanding applications. Automation, instrumentation, and integration features vary from simple to complex. Safety, portability, capacity, maintenance access, and space constraints are considered to ensure the best equipment solution.
ACS MANUFACTURING

ACS specializes in providing the design, fabrication, installation, and commissioning of specialty systems and equipment. Our facility allows us to produce a wide variety of custom systems and equipment.

Full machining capabilities » Complete metal fabrication
UL Certified electrical and control panel fabrication
Facility mock-ups » Factory Acceptance Testing (FAT)